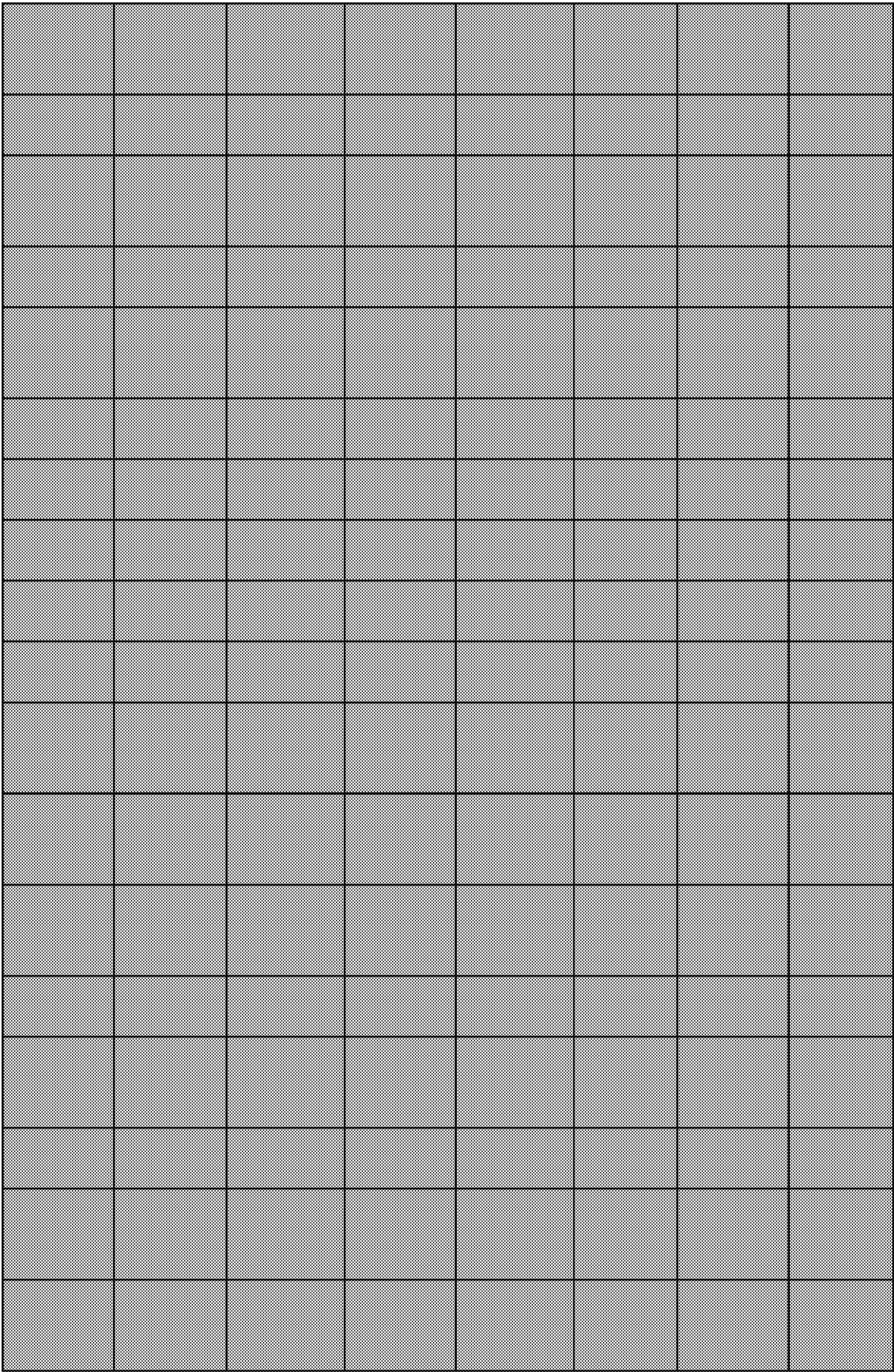


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Dehydroascorbate (DHA) reductase (DHAR, EC 1.8.5.1) catalyzes the reduction of DHA to reduced ascorbate (AsA) using g
To identify scorable marker traits that can be used in cereal breeding programs for selecting drought tolerant individuals
We investigated the role that manganese superoxide dismutase (MnSOD, EC 1.15.1.1), an important enzyme of the antio
Environmental stresses considerably limit plant productivity. At the molecular level the negative effect of stress is often r
In order to better understand the role of antioxidant enzymes in plant stress protection mechanisms, transgenic tobacco
The decrease in catalase activity and its relationship to change in salicylic acid content were investigated in rice, wheat, a
We previously demonstrated that the differential water stress tolerance of two wheat cvs (<i>Triticum aestivum</i> L cvs Oasis
Higher plants are considered not to require selenium (Se). However, it has recently been shown that Se increases the ant
We examined the transcripts that showed changes among the ca.7,000 Arabidopsis full-length cDNAs under biotic and ab
The <i>Escherichia coli</i> gene <i>katE</i> , which is driven by the promoter of the Rubisco small subunit gene of tomato, <i>rbcS3C</i> , was
To better understand the role of active oxygen species (AOS) in acquired resistance to increased levels of ultraviolet (UV)
A chimeric gene consisting of the coding sequence for cytosolic Cu/Zn-superoxide dismutases (SOD) from <i>Oryza sativa</i> fu
We developed transgenic rice plants (<i>Oryza sativa</i> L. cv. Daeribbyeon) overproducing cytosolic glutathione reductase (GR)
Low temperatures severely limit photosynthesis and growth of chilling-sensitive species. The decrease in photosynthetic
We placed BcGR1, a Chinese cabbage (<i>Brassica campestris</i> var. <i>Pekinensis</i>) gene that encodes cytosolic glutathione reduc
In recent years, there has been a growing interest in NADPH oxidases which are involved in the active generation of reac
An Ndh-deficient mutant of tobacco (<i>Nicotiana tabacum</i> cv. Petit Havana) was prepared by disrupting the <i>ndhF</i> gene in a
We investigated the effects of pretreatment with a low concentration of methyl viologen (MV) on the salinity-induced ch

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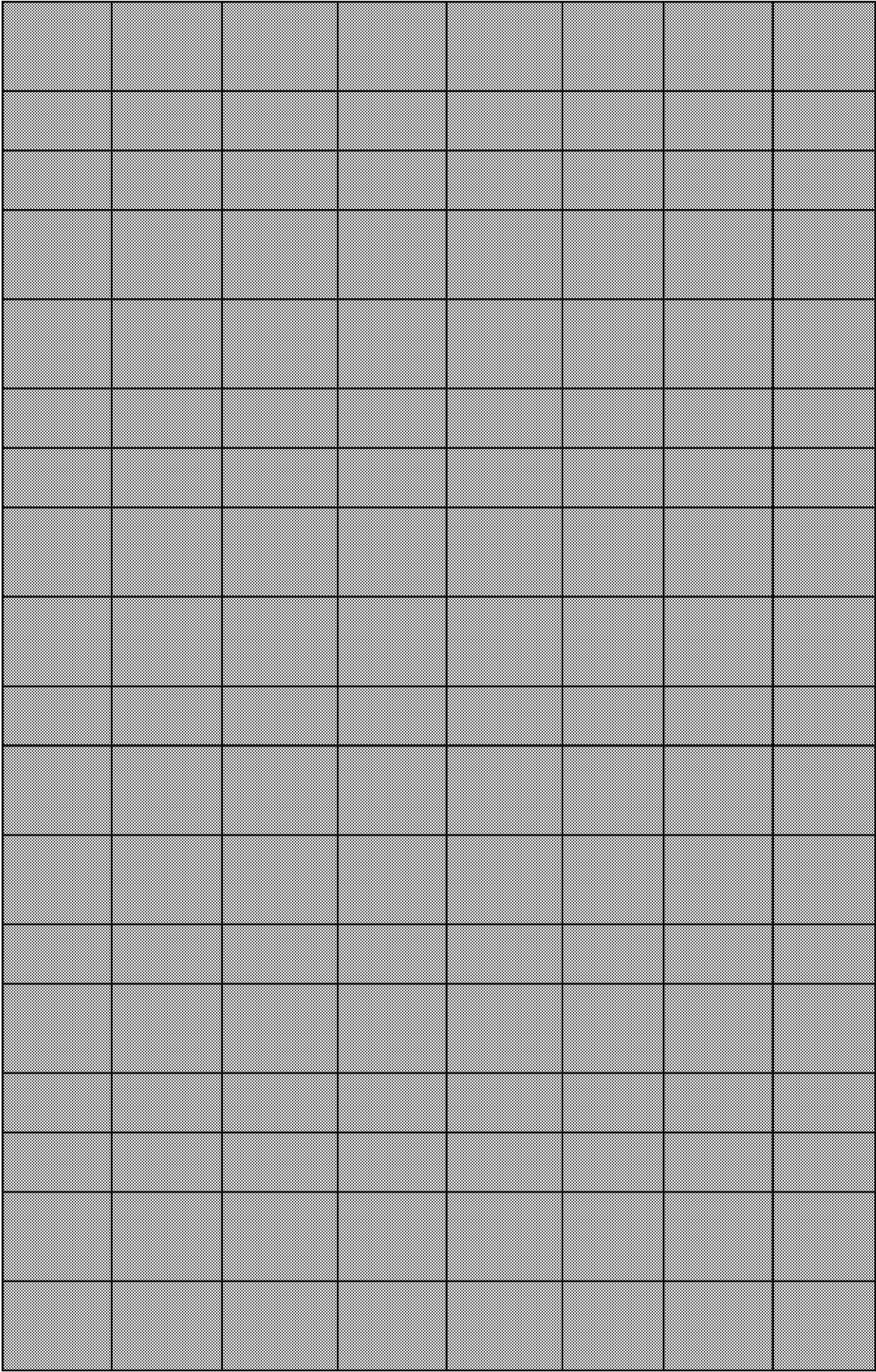
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Tobacco necrosis virus (TNV) susceptibility of a cytokinin overproducing tobacco line (CTKm) transformed with a CaMV 35S promoter
Abiotic stress responses include changes in physiological and biochemical processes as well as morphological and developmental changes
Effects of unfavourable environmental conditions (stresses) induce stressor specific and unspecific short- and long-term responses
The pathogen- and ethylene-inducible pepper-basic pathogenesis-related (PR)-1 gene, CABPR1, was strongly expressed in pepper leaves after infection with the pathogen <i>Phytophthora blight</i>
A tolerance to paraquat (PQ) of plants and cell cultures of <i>Arabidopsis thaliana</i> mutants, <i>nfs18</i> and <i>nfs24</i> , obtained by chemical mutagenesis
In order to determine the role of ascorbate peroxidase, an antioxidant enzyme, in the cellular responses to oxidative stress, we have studied the expression of this enzyme in transgenic tobacco plants
This research studies whether photoprotection mechanisms are able to counterbalance the short-term effect of two herbicides on the photosynthetic apparatus of <i>Arabidopsis thaliana</i>
The gene encoding for the early light-induced protein (ELIP), which confers tolerance against photo-oxidative stress conditions, was isolated from <i>Arabidopsis thaliana</i>
Stress response capacity (Fv/Fm at 690 nm and F690/F735 at F-max) of untransformed hybrid poplar, <i>Populus x canadensis</i> , and transgenic lines
We constructed transgenic <i>Arabidopsis</i> plants that over-express hot pepper CaCat1 to gain more insight into that gene's function
Oxidative stress is one of the major factors causing injury to plants exposed to environmental stress. Transgenic sweetpotato plants over-expressing the <i>CaCat1</i> gene from hot pepper
Limited information is available about the roles of RING-finger proteins in plant defense. A pepper CaRFP1 encoding the RING-finger protein
Carbon monoxide (CO), an endogenous signaling molecule in animals, also provides potent cytoprotective effects including inhibition of apoptosis
Proline accumulates in a variety of plant species in response to stresses such as drought, salinity and extreme temperatures
The production of H ₂ O ₂ in detached rice leaves of Taichung Native 1 (TN1) caused by CdCl ₂ was investigated. CdCl ₂ treatment caused a rapid increase in H ₂ O ₂ production
Secretory class III plant peroxidase (POD, EC 1.11.1.7) is believed to function in diverse physiological processes, including lignification and defense
Drought is one of the most important factors limiting chickpea production in arid and semi-arid regions. There is little information available on the molecular mechanisms of drought tolerance in chickpea
Studies of oxidative stress in plants began several years ago, although many aspects of the antioxidant response are still unclear

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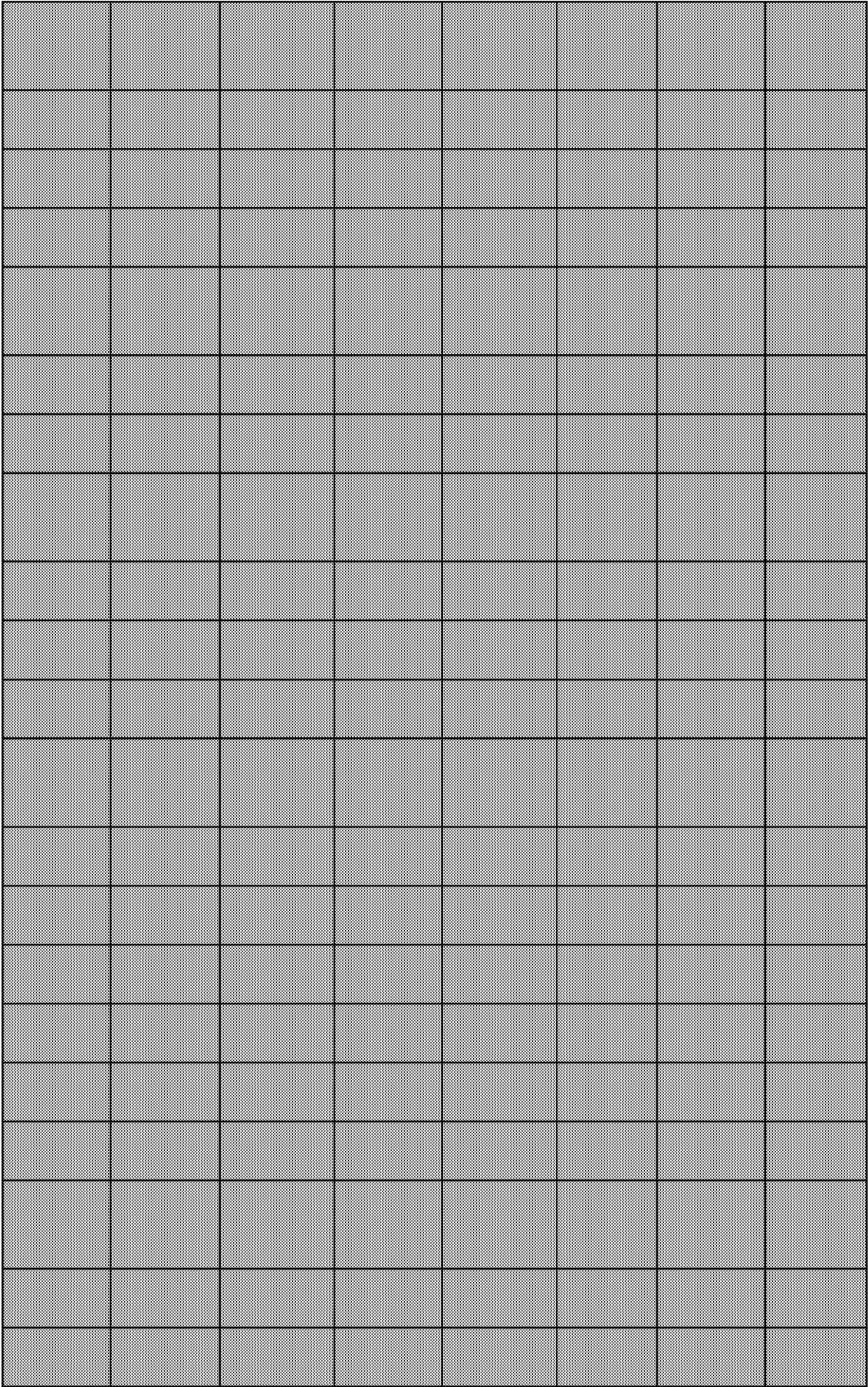


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Antioxidant enzymes play an important role in conferring abiotic stress tolerance. Superoxide dismutase (SOD) is the first
As barley is recalcitrant to transformation with current methods, a new improved system is required to apply genetic tra
In plants, the oxygen generated by photosynthesis can be excited to form reactive oxygen species (ROS) under excessive
Chlorophyll fluorescence imaging and antioxidative capability in detached leaves of the wild-type <i>Arabidopsis thaliana</i> ec
BACKGROUND: Late watergrass [<i>Echinochloa phyllopogon</i> (Stapf.) Koss.] is a major weed of Californian rice that has evol
Previously, we reported that mitochondria-associated hexokinases are active in controlling programmed cell death in pla
We investigated the influence of root zone temperature (RZT) and the aerial application of paraquat on stress defence m
A chimeric construct consisting of the double CaMV35S promoter fused to the Myc-vhb gene encoding <i>Vitreoscilla</i> (bacte
A binary vector devoid of a plant selection-marker gene (designated as pSSA-F) was constructed to overcome bio-safety c
A cytosolic antioxidant enzyme gene, <i>SodCc1</i> , encoding CuZn superoxide dismutase was characterized from rice. <i>SodCc1</i>
Ascorbate peroxidase (APX) plays an important role in the metabolism of hydrogen peroxide in higher plants. We studie
Transgenic sweetpotato (<i>Ipomoea batatas</i> L. cv. Yulmi) plants expressing the <i>Arabidopsis</i> nucleoside diphosphate kinase
The effect of <i>Medicago sativa</i> (alfalfa) ferritin gene (<i>MsFer</i>) on abiotic stress tolerance was tested using transgenic <i>Vitis b</i>
The objective of this work was to study the stress tolerance and regeneration capability of transgenic pepper plants carry
Glycosyltransferases (GTs) play an important role in modulating solubility, stability, bioavailability, and bioactivity of seco
Nitric oxide (NO) has been shown to be involved in diverse physiological processes in microbes, animals and plants. In thi
The fibrillins are a large family of chloroplast proteins that have been linked with stress tolerance and disease resistance.
MiR398 targets two Cu or Zn superoxide dismutases (CSD1 and CSD2) in <i>Arabidopsis thaliana</i> (L.) Heynh. Here we provide
Dehydroascorbate reductase (DHAR) plays an important role in the ascorbate-glutathione cycle in plants by controlling th
Paraquat is labeled for row-middle application on cucurbits, but drift to crop foliage is inevitable. Experiments were cond
We investigated the expression profiles of two catalase genes (<i>Slcat1</i> and <i>Slcat2</i>) in <i>Solanum lycopersicum</i> leaves in resp

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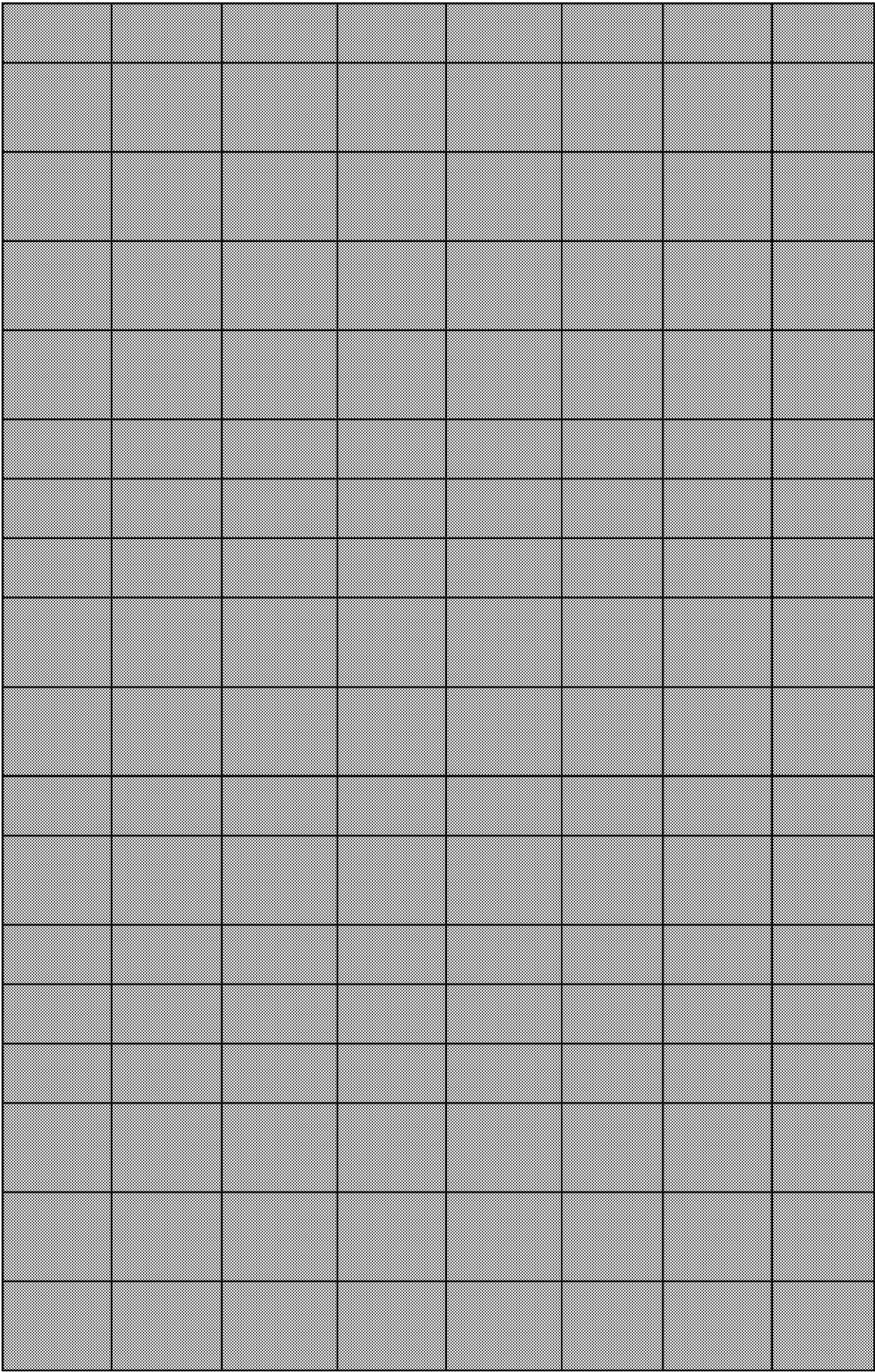
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A dehydration responsive element binding (DREB) gene, designated LeDREB2, was isolated from tomato. It was classified
Differential expression of the proline metabolism genes in <i>Thellungiella salsuginea</i> (Pall) E. Schulz was investigated unde
The effect of potato plant (<i>Solanum tuberosum</i> L., cv. Desnitsa) transformation with the desA gene from <i>Synechocystis</i> sp
Arabidopsis mutants with T-DNA insertion in seven calmodulin genes (CAM) were used to determine the specific role of
In plants of the facultative halophyte <i>Mesembryanthemum crystallinum</i> L. cultivated under climate-controlled conditions
Glyceraldehyde-3-phosphate dehydrogenase (GAPDH) is a highly conserved glycolytic enzyme that plays an important ro
The drought stress in one of the most significant environmental stress limiting the plant production over the agricultural
This study screened paraquat-tolerant plants among 10 plant species, including monocots and dicots angiosperms. Squas
In this work, the injuries caused by clethodim herbicide application as well as the use of exogenous salicylic acid (SA) as a
As an important antioxidant for plants and humans, L-ascorbic acid (AsA, vitamin C) can scavenge reactive oxygen species
The effect of light on ethylene and ethane production in damaged leaf tissues was investigated. When whole leaves of to
Vitamin C (ascorbic acid, AsA) is an essential component for collagen biosynthesis and also for correct functioning of the
Polyamines (PAs) are aliphatic polycations that are widespread in living organisms. In this review, we are focusing the co
Stress adaptation in plants involves altered expression of many genes through complex signaling pathways. To achieve th
The putative thylakoid lumen immunophilin, FKBP16-3, has not yet been characterized, although this protein is known to
Glutathione (GSH), a low-molecular-weight tripeptide molecule that plays an important role in cell function and metabol
Glutathione S-transferases belong to a large ancient gene family and are thought to be one of the effective detoxification
l-Galactono-1, 4-lactone dehydrogenase (GalLDH; EC 1.3.2.3) is the last key enzyme in the putative l-ascorbic acid (AsA) b

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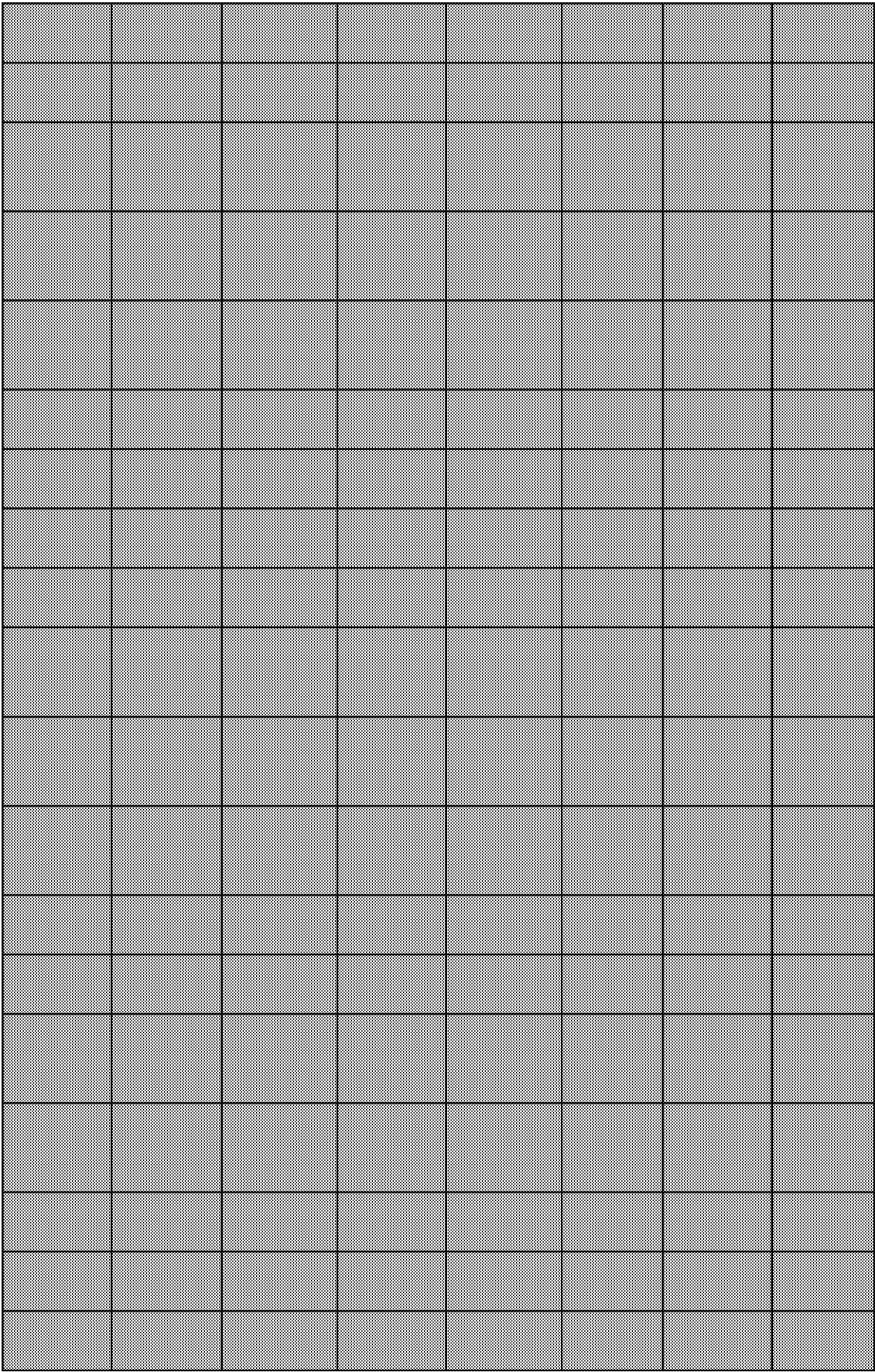
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Transgenic rapeseed (<i>Brassica napus</i> L.) plants carrying an artificial gene for the antimicrobial peptide cecropin P1 (cecP1)
Sphingolipids and their metabolites including long-chain bases (LCBs) and long-chain base 1-phosphates (LCBPs) have been
Plant transformation is an important tool for basic research and agricultural biotechnology. In most cases, selection of pu
l-ascorbic acid (vitamin C) is an abundant metabolite in plant cells and tissues. Ascorbate functions as an antioxidant, as a
The genotypic variation of oxidative damage under oxidative and drought stresses was evaluated for a total of 67 rice cul
Mitogen-activated protein kinase (MAPK) cascades are highly conserved signaling modules found in all eukaryotes, and p
LeAN2 encoding an anthocyanin-associated R2R3-MYB transcription factor was isolated from tomato. The expression of l
Metallothioneins (MTs) are cysteine-rich, low molecular weight, metal-binding proteins that are widely distributed in livi
The aim of this brief review is to draw information from studies of the mechanism of evolved resistance in weeds, togeth
Dehydroascorbate reductase (DHAR, EC 1.8.5.1) helps to maintain redox pools of ascorbate (AsA) by recycling dehydroas
Various environmental stresses limit the plant growth and productivity. Earlier we reported the stress inducible dehydrin
The establishment of a genetic transformation system for <i>Erycina pusilla</i> (<i>E. pusilla</i>) would be a major step for orchid rese
We generated transgenic alfalfa plants (<i>Medicago sativa</i> L. cv. Xinjiang Daye) expressing a bacterial <i>codA</i> gene in chlorop
l-Ascorbic acid (vitamin C, AsA), is an essential component for collagen biosynthesis and the major antioxidant in human,
L-Ascorbic acid (AsA) is the most abundant antioxidant and a major redox buffer that regulates plant responses to enviro
The basic leucine zippers (bZIPs) are one of the largest families of transcription factors that have been demonstrated to p
<i>Sclerotinia sclerotiorum</i> is a devastating ascomycete fungus capable of infecting more than 400 species of plants worldw
Geranylgeranyl reductase (CHL P) catalyzes the reduction of geranylgeranyl diphosphate to phytyl diphosphate and provi
The phytoene desaturase (PDS) gene, which is associated with carotenoid biosynthesis, was isolated from sweet potato (

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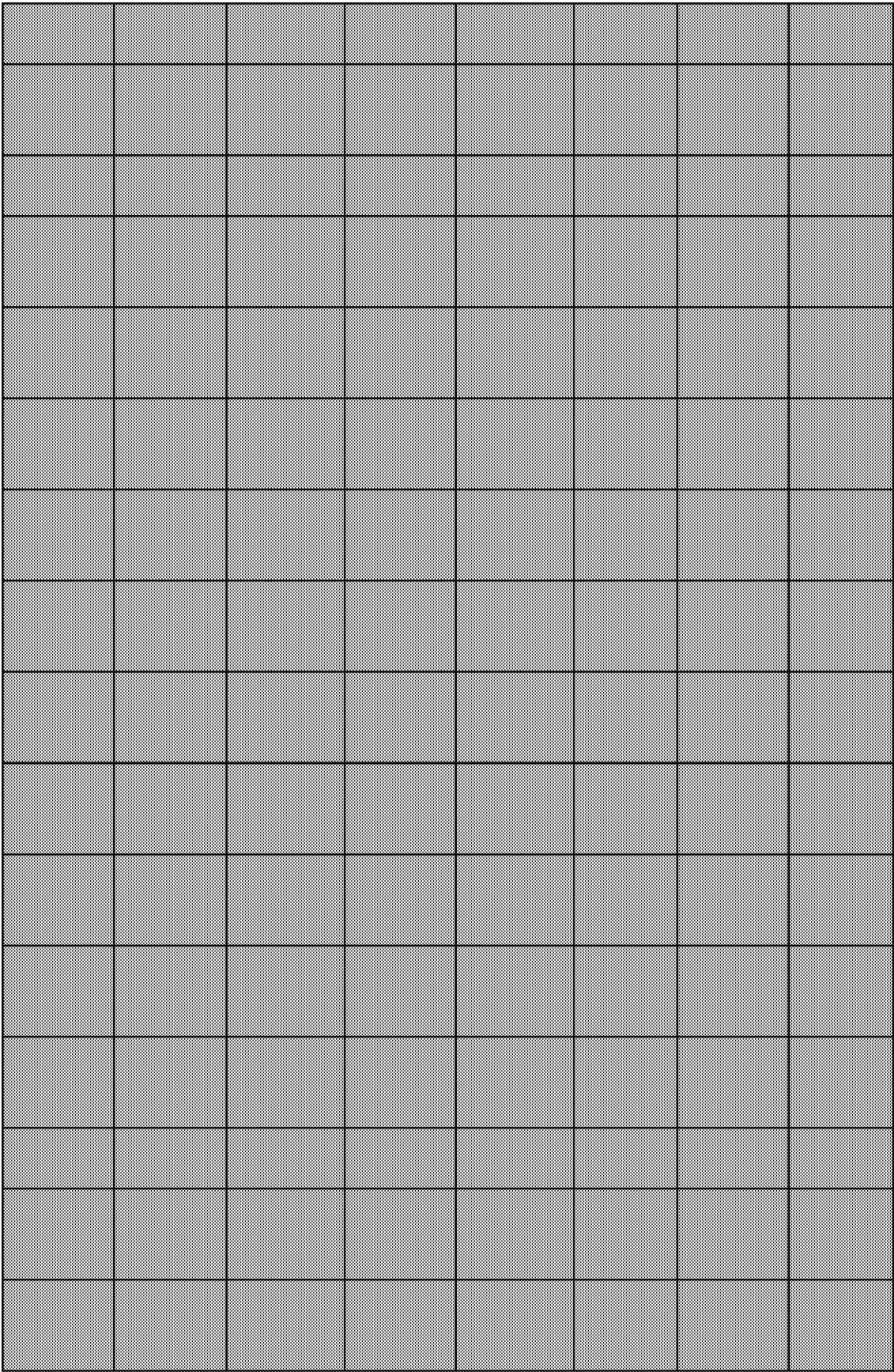
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Physiological stress responses in plants that are the key to understanding ongoing biological scenarios were observed in
Sunscald of apple (<i>Malus X domestica</i> Borkh.) fruit is a major cause for economical losses. It is widely accepted that expo
The plant-specific tau class of glutathione S-transferases (GSTs) is often highly stress-inducible and expressed in a tissue-
The tomato bZIP2-encoding gene was inserted into the <i>Nicotiana benthamiana</i> genome using <i>Agrobacterium</i> -mediated t
After analyzing tomato plants transformed with GalUR gene for their ascorbic acid contents, it was found that some trans
Transgenic research was preformed by transferring a cyanobacterial (<i>Nostoc flagelliforme</i>) iron superoxide dismutase ge
Inducer of CBF Expression 1 (ICE1) is an upstream regulator of cold-responsive genes in <i>Arabidopsis thaliana</i> and various
A chimeric gene consisting of a gene from <i>Escherichia coli</i> that encodes glutathione reductase (GR), the 35S promoter of
A gene from <i>Escherichia coli</i> that encodes glutathione reductase was connected to a gene for a chloroplastic transit-pept
Many environmental conditions induce an oxidative stress in plant cells by the generation of abnormal concentrations of
The rutin (quercetin-3-rhamnosyl-glucoside) content of two tobacco cultivars (<i>Nicotiana tabacum</i> L.) which differ in their
The activities of a number of enzymes of the ascorbate-glutathione pathway have been shown to rise under conditions o
Oxidative damage has been implicated in the necrotization of plant tissues by incompatible pathogens, including those th
Juvenility of plant tissues enhances resistance to toxins, cell wall-degrading enzymes, autolysis of membrane lipids and th

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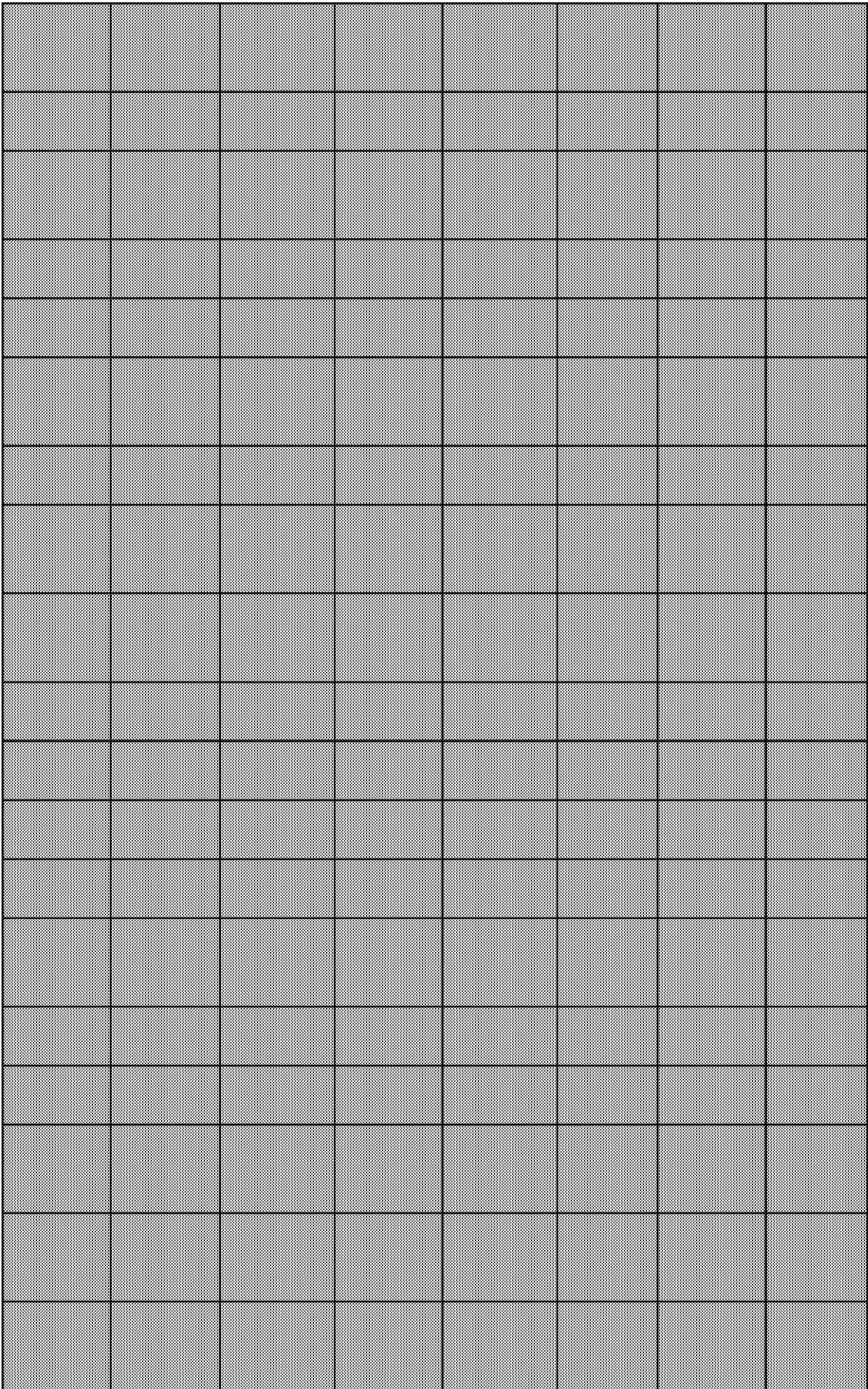
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Crocus sativus L. belongs to family Iridaceae and its stigma part which forms commercial saffron has been used as a spice
Summary Injury from freezing stress may be caused by degradative reactions initiated by activated oxygen. The relationsh
Rates of photosynthesis, tolerance to photooxidative stress, and senescence are all important physiological factors that a
The peanut is one of the limited number of plant species that synthesize resveratrol, which is both a phytoalexin with ant
Trehalose is a nonreducing disaccharide of glucose that has been correlated with tolerance to different stress conditions.
Chilling is one of the most serious environmental stresses that disrupt the metabolic balance of cells and enhance the pro
Summary Gibberellic acid (GA) antagonism of the growth inhibitory and stress protective effects of paclobutrazol (P) was
Vitamin C (ascorbic acid) is an essential component for collagen biosynthesis and also for the proper functioning of the c
Long term light emission was compared from leaves of paraquat-resistant and -susceptible tobacco plants. In the minute
Plants regenerated from paraquat-resistant tobacco cell lines and their sexual progeny were evaluated for paraquat resis
Oxidative damage occurring in plant cells under drought stress is a known cause of reduced plant primary production. De
This article has been retracted at the request of the chief editors and author. Reason: this article contains material that h
In Arabidopsis thaliana, twenty mitogen-activated protein kinases (MAPKs/MPKs) are regulated by five MAP kinase phosph
Summary Plant fatty acid α -dioxxygenases (DOXs) catalyze the stereospecific conversion of fatty acids into the correspond
Capsicum annuum L. Bugang exhibits a hypersensitive response against Tobacco mosaic virus (TMV) P0 infection. The C.
Serine carboxypeptidase-like proteins (SCPLs) comprise a large family of protein hydrolyzing enzymes that play roles in m
Metallothioneins (MTs) are low-molecular-weight, cysteine-rich metal-binding proteins found in numerous genera and s
Growth chamber experiments were conducted to determine if there is a pattern of cross-tolerance to paraquat and ozon
Superoxide dismutase (SOD) and ascorbate peroxidase (APX) play central roles in the pathway for scavenging reactive ox

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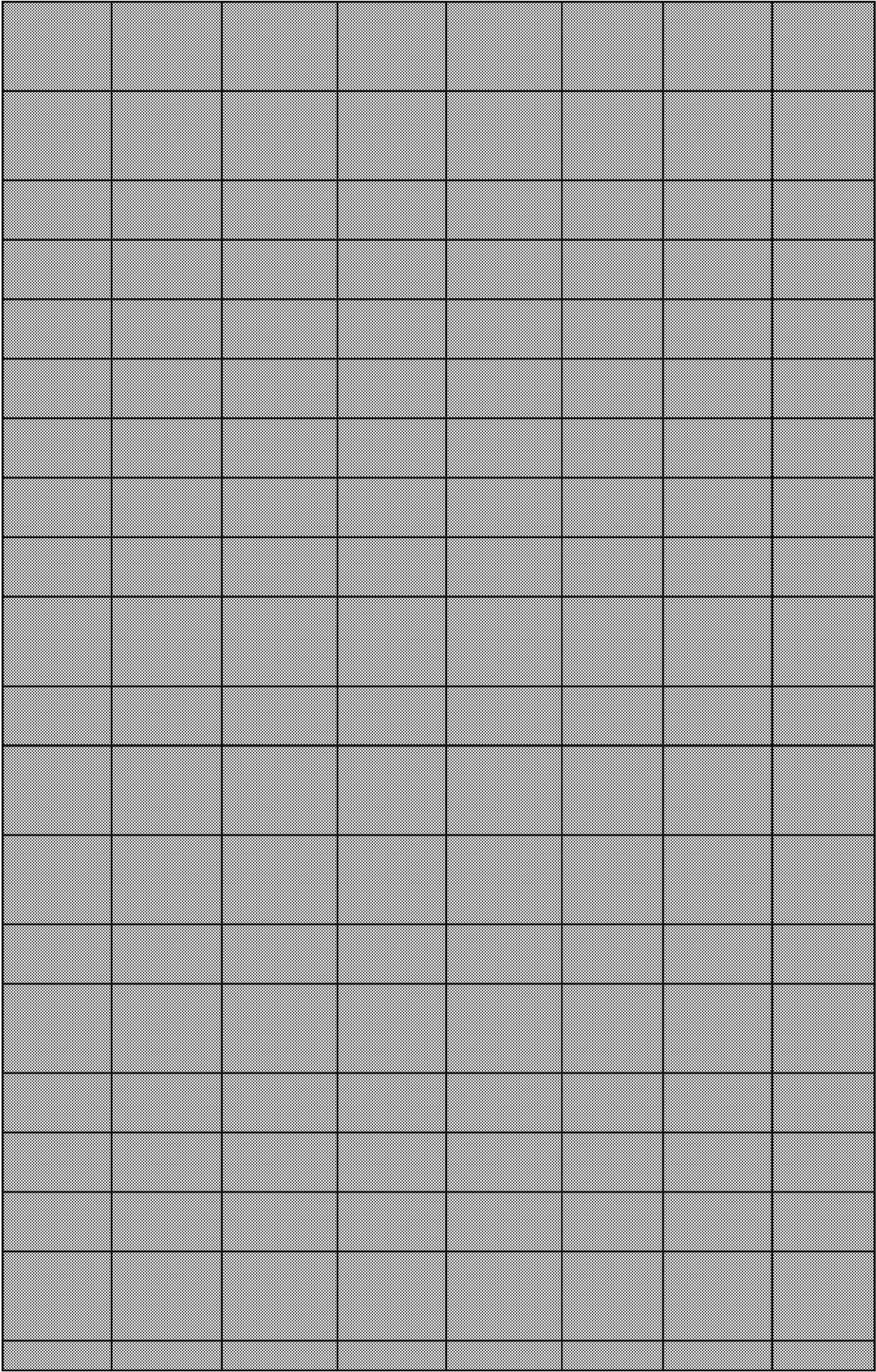
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Various transcription factors are involved in the response to environmental stresses in plants. In this study, we character
Based on results from previously published work, various chemical solutions were injected into the intercellular spaces o
Transgenic herbicide-resistant sweet potato plants [<i>Ipomoea batatas</i> (L.) Lam.] produced through a biolistic transformati
A tomato (<i>Lycopersicon esculentum</i> Mill.) chloroplast glutathione reductase gene (LeGR) was isolated and antisense tran
Reduced paraquat transport from the site of application to the site of action in the chloroplast seems a likely mechanism
<i>Muscodor cinnamomi</i> was selected and investigated for its in vitro ability to produce indole-3-acetic acid (IAA) to solubiliz
Summary Photosynthetic responses of paraquat/atrazine coresistant (PqAR) and only paraquat resistant (PqR) biotypes c
Summary The xanthophyll cycle and in vivo photoinhibition were investigated in the herbicide-susceptible (S), paraquat-r
The GDP-l-galactose phosphorylase (GGP), which converts GDP-l-galactose to l-Gal-1-phosphate, is generally considered t
Abiotic stresses affect the yield of crop plants worldwide. Plant species have evolved in such a way that they are able to c
Calcium is a ubiquitous intracellular secondary messenger in plants. Calcineurin B-like proteins (CBLs), which contain four
Sequestration of paraquat away from its target site in the chloroplast has been proposed as a mechanism of paraquat res
Mitogen-activated protein kinase (MAPK) cascades are important intracellular signaling modules and function as a conve
The paper examines the supramolecular effects at play during photosensitization by carboxylated Ru(II) sensitizers, both
[2]Catenanes made up of several polyether-strapped porphyrin macrocycles interlinked with the cyclic electron acceptor
In this study ion binding to solid organic matter was investigated. We used the NICA-Donnan model to describe the inter
Received Revision received We investigated the CN--induced apoptosis of guard cells in epidermal peels isolated from pe
Challenge of <i>Rhodobacter capsulatus</i> cells with the superoxide propagator methyl viologen resulted in the induction of a
The mechanism of activation of the bladder carcinogen 2-amino-4-(5-nitro-2-furyl)thiazole (ANFT) was investigated by co
With the fabrication of molecular electronic devices (MEDs) and the construction of nanoelectromechanical systems (NEI

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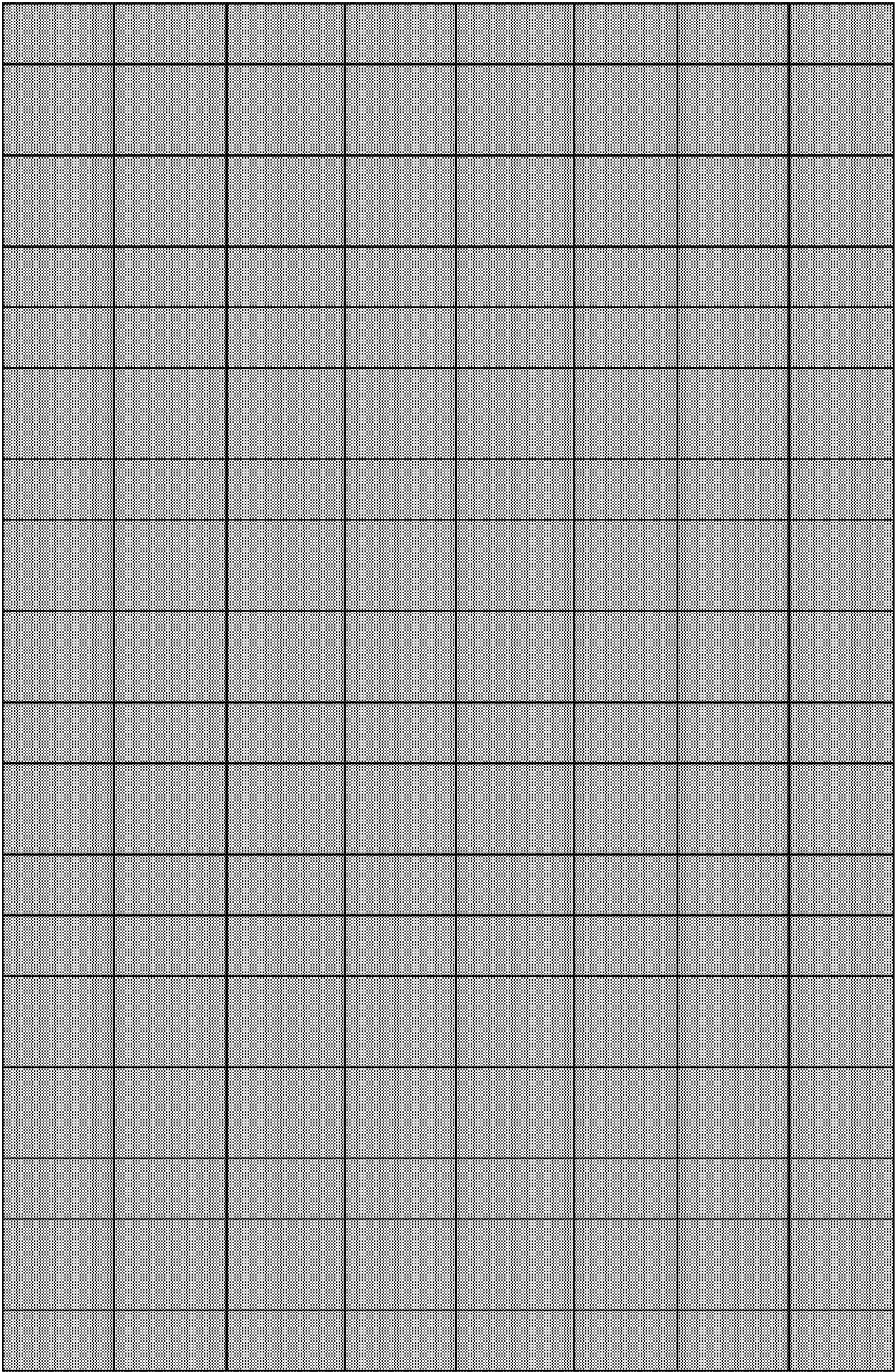
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The cold tolerance of rice (<i>Oryza sativa</i> L.) seedlings could be markedly improved by mild oxidative pretreatment (10 min) in the presence of hydrogen peroxide.
Horseradish peroxidase in the presence of hydrogen peroxide mediates the activation of carcinogenic 1-phenylazo-2-hydroxy-3-methyl-4-nitrobenzene.
The effects of dibromothymoquinone (DBMIB) and methylviologen (MV) on the Chl a fluorescence induction transient (OJIP) were studied in the presence of hydrogen peroxide.
Redox cycling agents such as paraquat and menadione increase the generation of reactive oxygen species in biological systems.
A freshwater cyanobacterium, <i>Nostoc spongiaeforme</i> TISTR 8169, synthesizes and releases a violet pigment, nostocine A.
Three electron-transferring flavoproteins were purified to homogeneity from anaerobic, amino acid-utilizing bacteria (bacterium).
The enzyme catalase (EC 1.11.1.6) is inactivated by light and must be continuously replaced by new synthesis in order to maintain its activity.
PsbU is a subunit of the extrinsic complex attached to the core of photosystem II. A PsbU-mutant of <i>Synechococcus</i> PCC 7942 was isolated.
We have measured directly the rate of formation of the oxidized chlorophyll a electron donor (P680(+)) and the reduced electron acceptor (P680(-)).
Purified aconitase, an iron-sulfur protein, from either beef heart mitochondria or pig heart can be activated fully by light.
<i>Chenopodium rubrum</i> cells were grown in suspension as a photoautotrophic culture with a 16 hour day. Cell growth had a lag phase.
A two-step purification protocol was used in an attempt to separate the constitutive NAD(P)H-nitrate reductase [NAD(P)H-nitrate reductase].
Nitrite reductase (NiR, nitric-oxide: ferricytochrome c oxidoreductase, EC 1.7.2.1) and methyl viologen (MV) were co-immunoprecipitated.
The hypothesis that anthocyanins in red leaves may be potential in vivo antioxidants whose efficiency is linked to their photophysical properties.
Using the vascular plant <i>Cucumis sativus</i> (cucumber) as a model, we studied the effects of high (intense and excess) light on the photosynthetic apparatus.
After incubation at 42 degrees C for more than 48 h, brown damages occurred on the stems of tobacco (<i>Nicotiana tabacum</i>).
The toxicity associated with paraquat is believed to involve the generation of active oxygen radicals and the production of reactive oxygen species.
It has been previously shown that certain herbicides or plant extracts inhibited the viral infection. The goal of this study was to determine the effect of these compounds on the viral infection.

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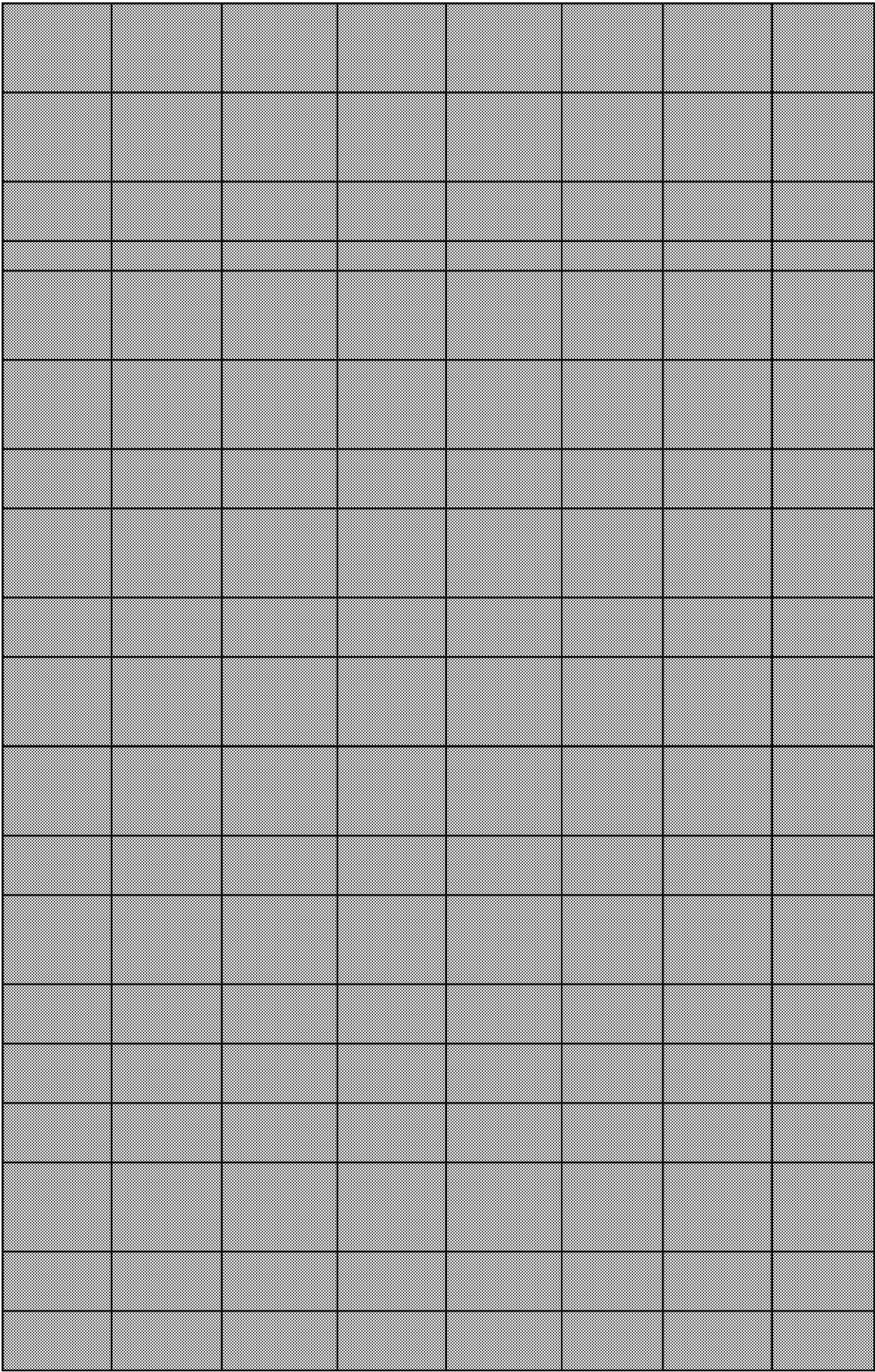
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An electrochemical biosensor based on a glassy carbon (GC) electrode chemically modified with the perfluorinated cation
Ferredoxin-NADP(H) reductase (FNR) catalyzes the last step of photosynthetic electron transport in chloroplasts, driving
Agmatine (decarboxylated arginine) is an endogenous amine found in the CNS that antagonizes NMDA receptors and inh
Two-station [2]rotaxanes in the shape of a degenerate naphthalene (NP) shuttle and a nondegenerate monopyrrolotetra
Janus green B (JG-B) dye is used for vital staining of mitochondria and its reduction and oxidation shows the electron tran
The damaging effect of oxidative stress inductors: methyl viologen, benzyl viologen, cumene hydroperoxide, H ₂ O ₂ , men
Aqueous photochemistry of diazen-1-ium-1,2,2-triolate (Angeli's anion) and (Z)-1[N-(3-aminopropyl)-N-(3-aminopropyl)a
Polycyclic aromatic hydrocarbons (PAHs) have been widely studied with respect to their carcinogenic and mutagenic effe
Unlike known Chlamydomonas species, Chlamydomonas sp. strain W80, which was isolated from seawater, shows tolera
Light-induced deepoxidation of violaxanthin to antheraxanthin and zeaxanthin in plants is associated with the induction o
Complex II of the anaerobic respiratory chain in Ascaris muscle mitochondria showed a high fumarate reductase activity
Hydroxylamine oxidoreductase (HAO) from the ammonia-oxidizing bacterium Nitrosomonas europaea normally catalyze
To determine the physiological functions of a novel death-specific protein gene, Skeletonema costatum DSP-1 (ScDSP-1)
Nafion/methyl viologen (MV) has been chemically modified on a gold disk microelectrode (GDME). The electrochemistry
The effect of the herbicide paraquat (N,N'-dimethyl 4,4'-bipyridium), known to damage the lipid cellular membrane by pe
Physiological roles of the two distinct chloroplast-targeted ferredoxin-NADP(+) oxidoreductase (FNR) isoforms in Arabid
The positively charged fluorescent dyes ethidium (Et(+)) and propidium (Pr(2+)) are widely used as DNA and necrosis ma
Metronidazole (MTZ) is widely used in combination therapies against the human gastric pathogen Helicobacter pylori. Re
Campylobacter species are rich in c-type cytochromes, including forms which bind carbon monoxide. The role of the vari

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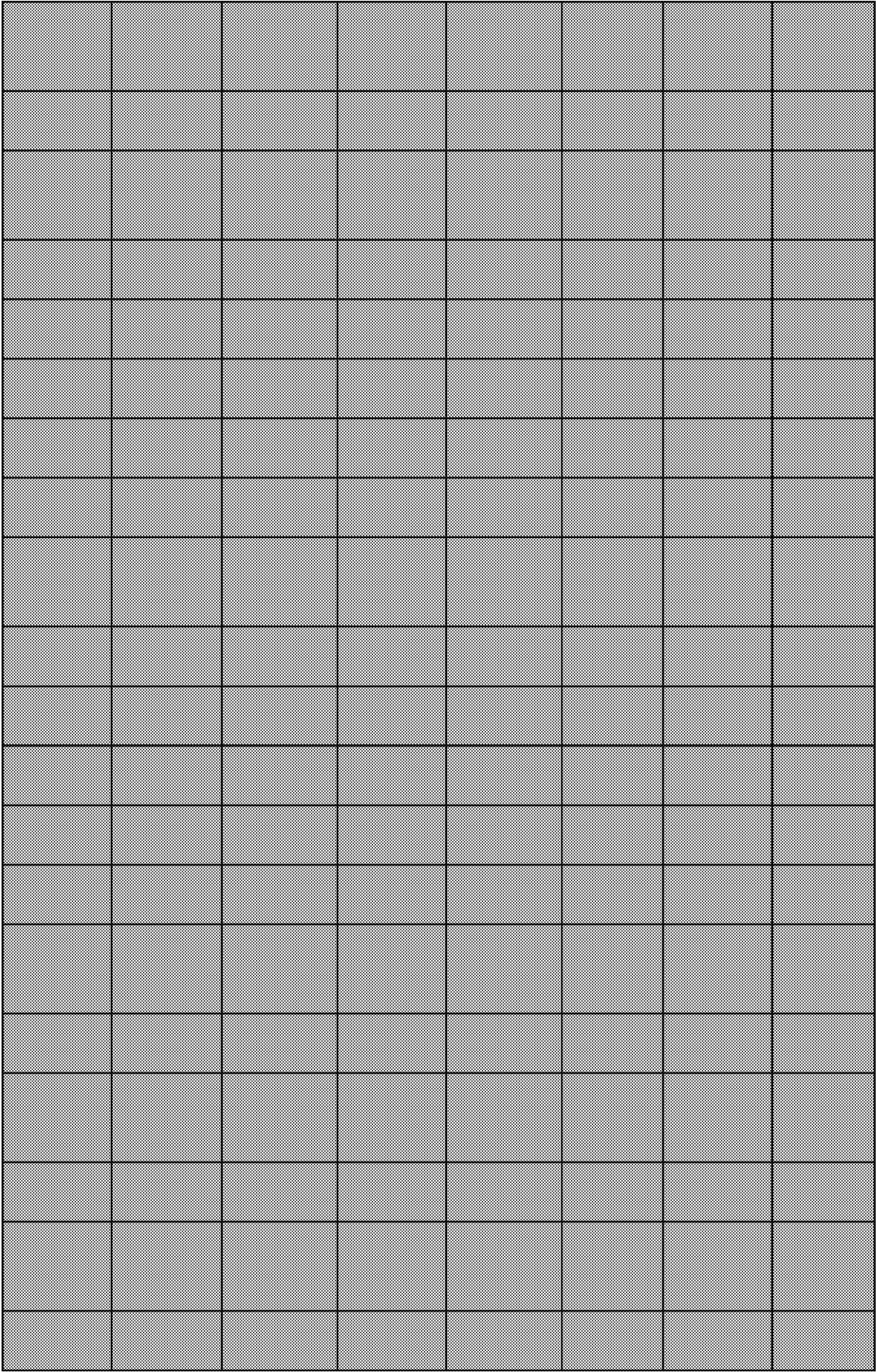
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Formation of free radical intermediates from 1-methyl-4-phenylpyridinium ion(MPP ⁺) has been studied using spin-trapping
Partially-reduced forms of dioxygen or "oxy-radicals" (superoxide, O ₂ ⁻ /HO ₂ ; hydrogen peroxide, H ₂ O ₂ ; hydroxyl radical)
Zolpidem (trade name Ambien) has attracted much interest as a sleep-inducing agent and also in research. Attention has
Polyclonal antisera were prepared against ferredoxin-nitrite reductase (EC 1.7.7.1) and ferredoxin-glutamate synthase (g
The phototoxicity mechanism of a kryptocyanine dye, N,N'-bis(2-ethyl-1,3-dioxolane)kryptocyanine (EDKC ⁺), has been st
The changes in NADPH activity was studied in the roots of 3-4-day-old etiolated pea (cultivar Aksaiskii usatyi) seedlings d
The effect of superoxide anion radicals on the photosynthetic electron transport chain was studied in leaves and isolated
CO(2) fixation in mosses saturates at moderate irradiances. Relative electron transport rate (RETR) inferred from chlorop
Light signal transduction was studied in extracts of mycelia of the fungus Neurospora crassa, and the third internodes of
The flavin mononucleotide in complex I (NADH:ubiquinone oxidoreductase) catalyzes NADH oxidation, O(2) reduction to
Paraquat is an artificial electron carrier that captures electrons from reduced cytochrome P-450 instead of the natural ac
The ability of the diradical dicationic cyclobis(paraquat-p-phenylene) (CBPQT(2(2 ⁺))) ring to form inclusion complexes wi
We recently published electron paramagnetic resonance (EPR) spin trapping results that demonstrated the enzymatic re
1. The activities of pyruvate:methyl viologen oxidoreductase (EC 1.2.7.1), hydrogenase (EC 1.18.99.1), NADH:methyl viol
The ability of paraquat, MPP ⁺ , and analogs to be reduced by chemical reductants and by NADPH, as catalyzed by liver mi
Coumarins C-153, C-480, and C-1 formed 1:2 (guest:host) complexes with a water-soluble cavitand having eight carboxyli
Inactivation of the DEAD box RNA helicase, crhR, has dramatic effects on the physiology and morphology of the photosyn
Subcellular fractions obtained from Trypanosoma cruzi epimastigotes broken by freezing and thawing were assayed for f
Pure glutathione reductase from Saccharomyces cerevisiae catalyzed under anaerobic conditions the enzymatic reductio
Pseudomonas aureofaciens truncates the respiratory reduction of nitrate (denitrification) at the level of N ₂ O. The nitrite

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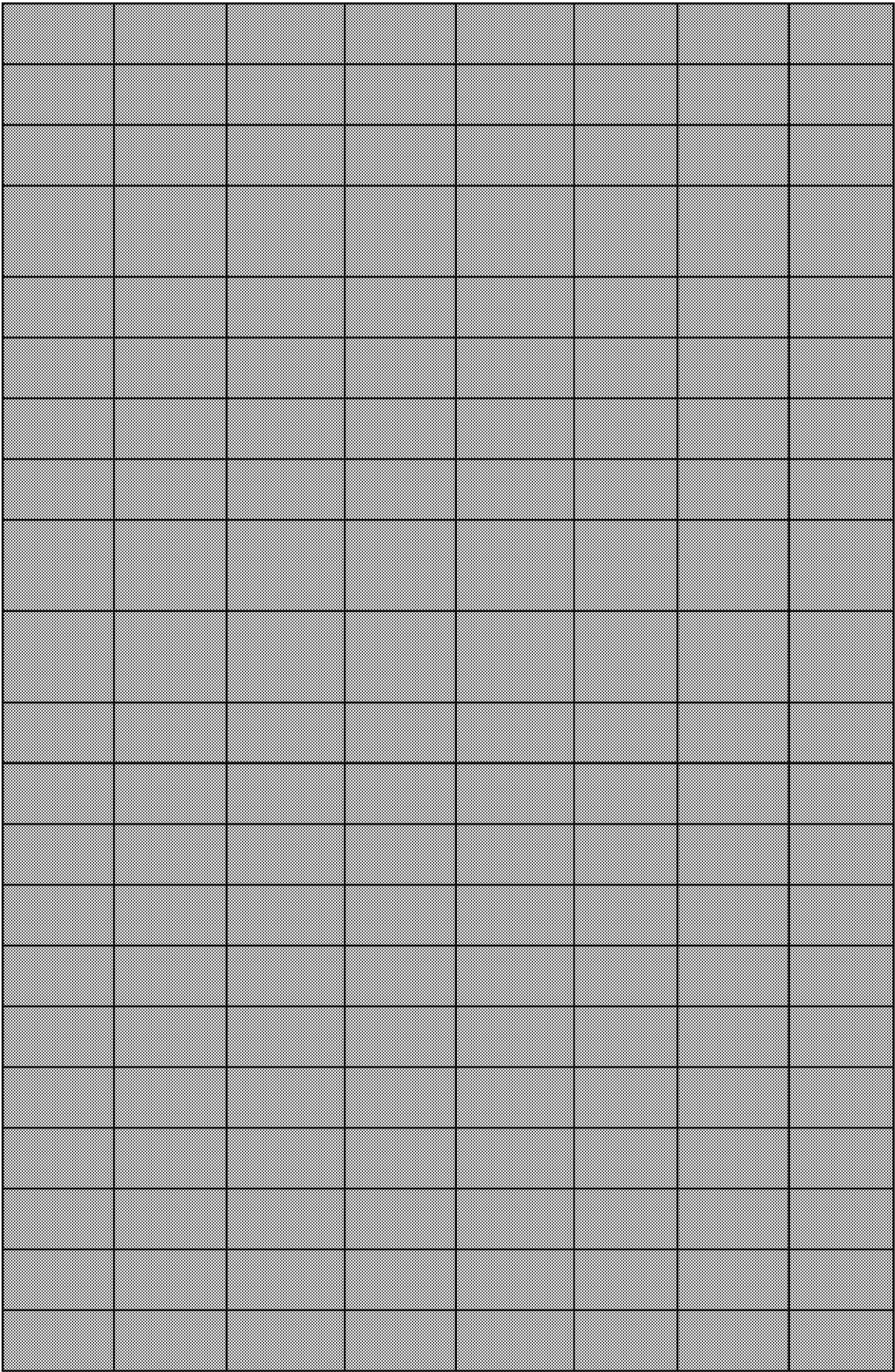
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The subcellular localization of NO generation in soybean cotyledons, and the relationship between NO synthesis and in v
Hydrogen peroxide (H ₂ O ₂) evolves during cellular metabolism and accumulates under various stresses causing serious re
Mitochondria from beef heart and yeast catalyze the reduction of NAD to NADH at the expense of reduced methylviolog
Oxidative stress in plants causes ferredoxin down-regulation and NADP(+) shortage, over-reduction of the photosynthesi
Huai Zi (HZ) is a new purple mutant of green pepper (PI 631133) that is obtained from the United States Department of A
A survey of the literature indicates that several chemicals whose reduced metabolites are capable of undergoing redox c
Plastids sustain life on this planet by providing food, feed, essential biomolecules and oxygen. Such diverse metabolic an
The mechanism of the enhancing effect of methyl viologen (MV) and flavin-adenine dinucleotide (FAD) on sulfoxide redu
The heme of bacteria, plant and animal hemoglobins (Hbs) must be in the ferrous state to bind O(2) and other physiologi
Plants display a remarkable diversity of thioredoxins (Trxs), reductases controlling the thiol redox status of proteins. The
Ferredoxin-glutamate synthase (EC 1.4.7.1) from Chlamydomonas reinhardtii has been purified to electrophoretic homog
Protoplasts prepared from spinach leaves in May and June contained substantial amounts of ascorbate (1.33+/-0.28 mu
We have measured the rate constant for the formation of the oxidized chlorophyll a electron donor (P680(+)) and the red
1. Paraquat and diquat produce only a slight increase in the oxygen uptake of rat liver mitochondria, and it is likely that t
It was reported that VDAC1 possesses an NADH oxidoreductase activity and plays an important role in the activation of x
A proteomic approach was employed to elucidate the response of an agriculturally important microbe, Anabaena sp. stra
The hydroxylamine oxidoreductase (HAO) from the anammox bacterium, Candidatus Kuenenia stuttgartiensis has been r
Glutathione-protected gold clusters exhibit size-dependent excited state and electron transfer properties. Larger-size clu
Understanding the mechanism of efficient photoinduced electron-transfer processes is essential for developing molecula
FerB is a flavin mononucleotide (FMN)-containing NAD(P)H: acceptor oxidoreductase of unknown function that is found i

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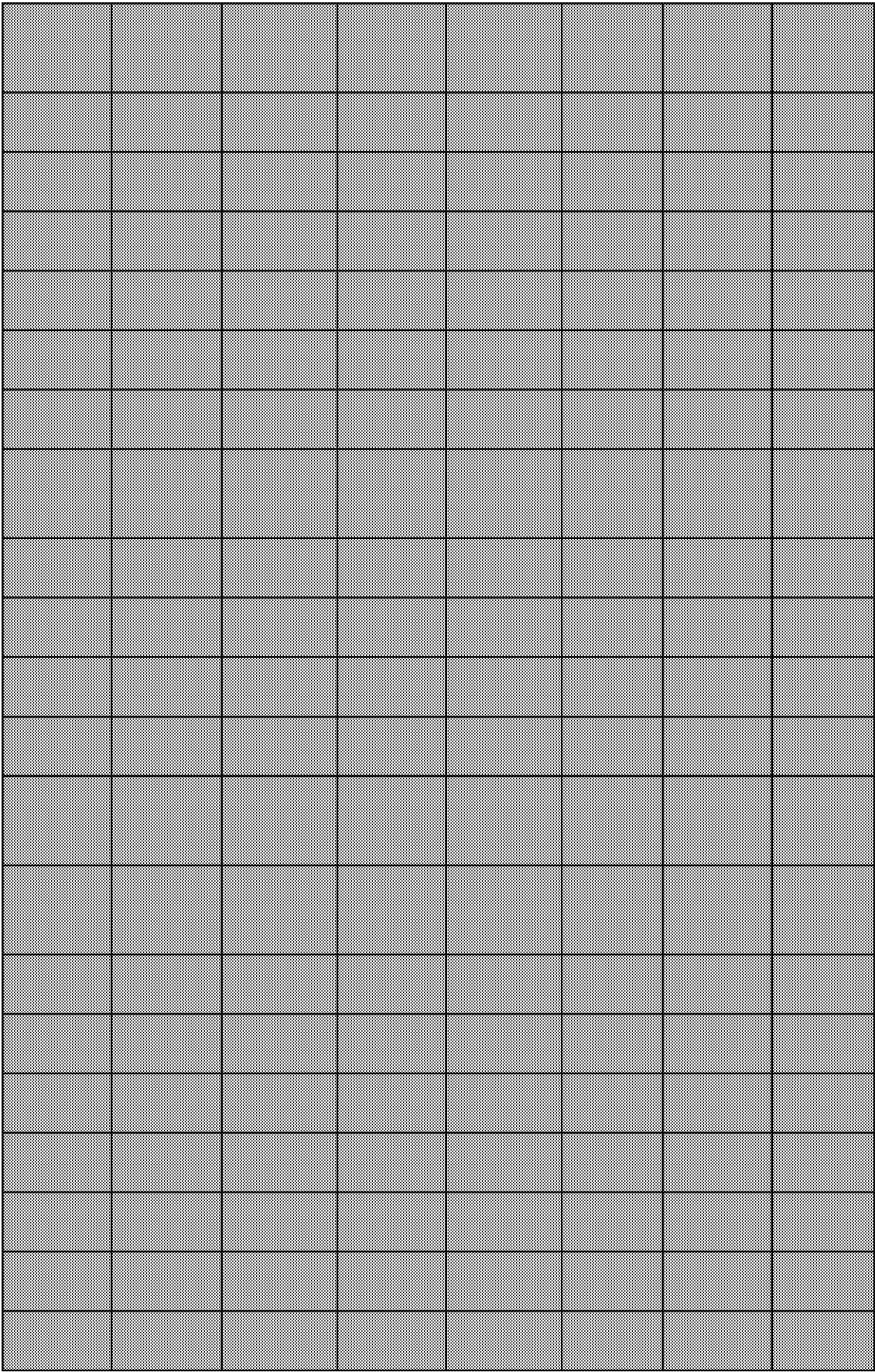
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Investigations were carried to unravel mechanism(s) for higher tolerance of floating over submerged leaves of long leaf p
The inhibitor methyl viologen (MV) has been widely used in photosynthesis to study oxidative stress. Its effects on electr
Herein we describe a protocol that uses hollow-fiber flow field-flow fractionation (FFF) coupled with multiangle light scat
Communications between chloroplasts and other organelles based on the exchange of metabolites, including redox activ
<i>Erwinia amylovora</i> is a necrogenic bacterium, causing the fire blight disease on many rosaceous plants. Triggering oxidati
Plastoquinone bound with decyltriphenylphosphonium cation (SkQ1) penetrating through the membrane in nanomolar c
In photosynthesis, final electron transfer from ferredoxin to NADP(+) is accomplished by the flavo enzyme ferredoxin:NA
The ability of paraquat radicals (PQ+.) generated by xanthine oxidase and glutathione reductase to give H ₂ O ₂ -dependent
Silver nanoclusters complexed with dihydrolipoic acid (DHLA) exhibit molecular-like excited-state properties with well-de
<i>Selenomonas ruminantium</i> was found to possess two pathways for NH ₄ ⁺ assimilation that resulted in net glutamate synt
This paper describes a convenient and rapid fluorescence sensor for determination of paraquat (PA) based on glutathion
Directional chloroplast photorelocation is a major physio-biochemical mechanism that allows these organelles to realign
The non-selective herbicide paraquat (Pq) is being extensively used for broad-spectrum weed control. Through water run
In the work, a fluorescence switch sensor consists of Mn-doped CdTe quantum dots (QDs) - methyl viologen (MV(2+)) na
Photosystem I (PSI) photoinhibition suppresses plant photosynthesis and growth. However, the mechanism underlying P
The ability of a dendritic network to intercept electrons and extend the lifetime of a short-lived photoinduced charge sep
Pyruvate dehydrogenase found in mitochondria of <i>Euglena gracilis</i> was active on NADP ⁺ but not NAD ⁺ , and FAD and met
An NADPH-dependent O ₂ ⁻ -generating oxidase was solubilized from phorbol 12-myristate 13-acetate-activated pig neut
IspH, (E)-1-hydroxy-2-methyl-but-2-enyl 4-diphosphate reductase, is an essential enzyme in isoprenoid biosynthesis and
An amperometric dimethyl sulfoxide (DMSO) sensor was constructed based on DMSO reductase (DMSO-R). DMSO-R from

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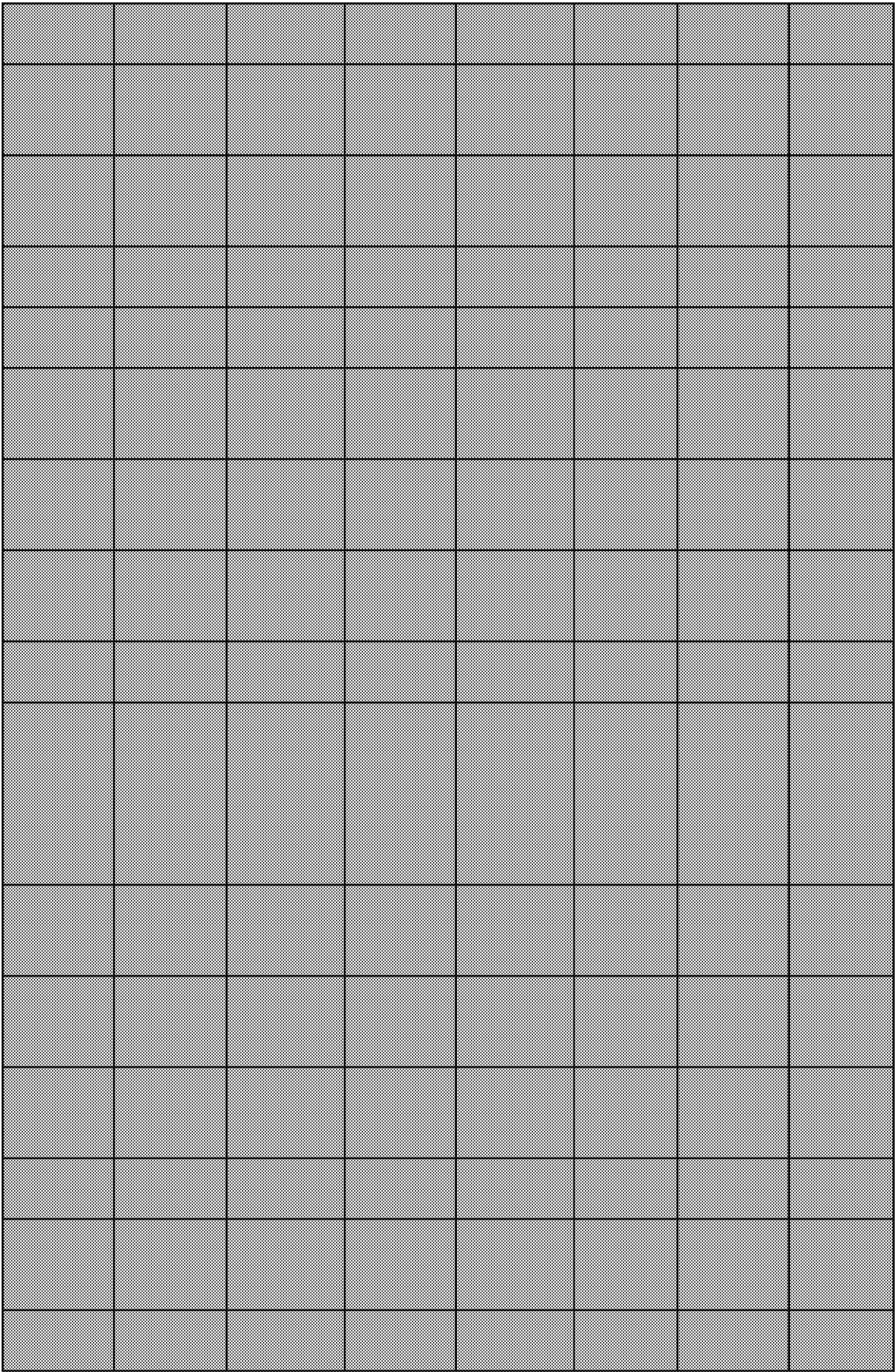
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Herein, we demonstrate a facile route for synthesis a new photocatalyst based on TiO ₂
Under aerobic conditions, rat liver microsomes convert carbon tetrachloride to an electrophilic form of chlorine that is tr
The membrane-bound hydrogenase of the photosynthetic bacterium <i>Rhodospirillum rubrum</i> has been purified 490-fold
The protons produced by the catalytic activity of hydrogenase in H ₂ evolution from dithionite-reduced methyl viologen or
In <i>Nitrobacter vulgaris</i> strain Ab1 a membrane-bound nitrite reductase was found to be co-purified with the nitrite oxidoreductase
Intact cells of <i>Chlamydomonas reinhardtii</i> as well as isolated thylakoid membranes and photosystem II complexes were u
The reduction of the tetraheme cytochrome c ₃ (from <i>Desulfovibrio vulgaris</i> , strains Miyazaki F and Hildenborough) by fla
Summary It has recently been proposed that two oxygen molecules are consumed per electron pair transferred through
This work describes the construction and voltammetric characterization of a nitrite biosensor based on a cytochrome c-type
Cadmium (Cd) is a non-essential and toxic element, without any metabolic significance whereas, zinc (Zn) is an essential
Background <i>Entamoeba histolytica</i> , an intestinal protozoan that is the causative agent of amoebiasis, is exposed to eleva
Assimilatory ferredoxin-nitrite reductase (EC 1.7.7.1, ammonia: ferredoxin oxidoreductase) has been purified 5300-fold v
Subcellular fractions (mitochondria, microsomes and cytosol) were prepared from the lungs of rabbits and rats to investi
Summary Eighteen strains of <i>Rhizobium meliloti</i> were screened for their nitrate reductase activity (EC 1.7.99.4), on the b
A hydrogenase was isolated from a unicellular and non-nitrogen-fixing cyanobacterium, <i>Microcystis aeruginosa</i> strain NII

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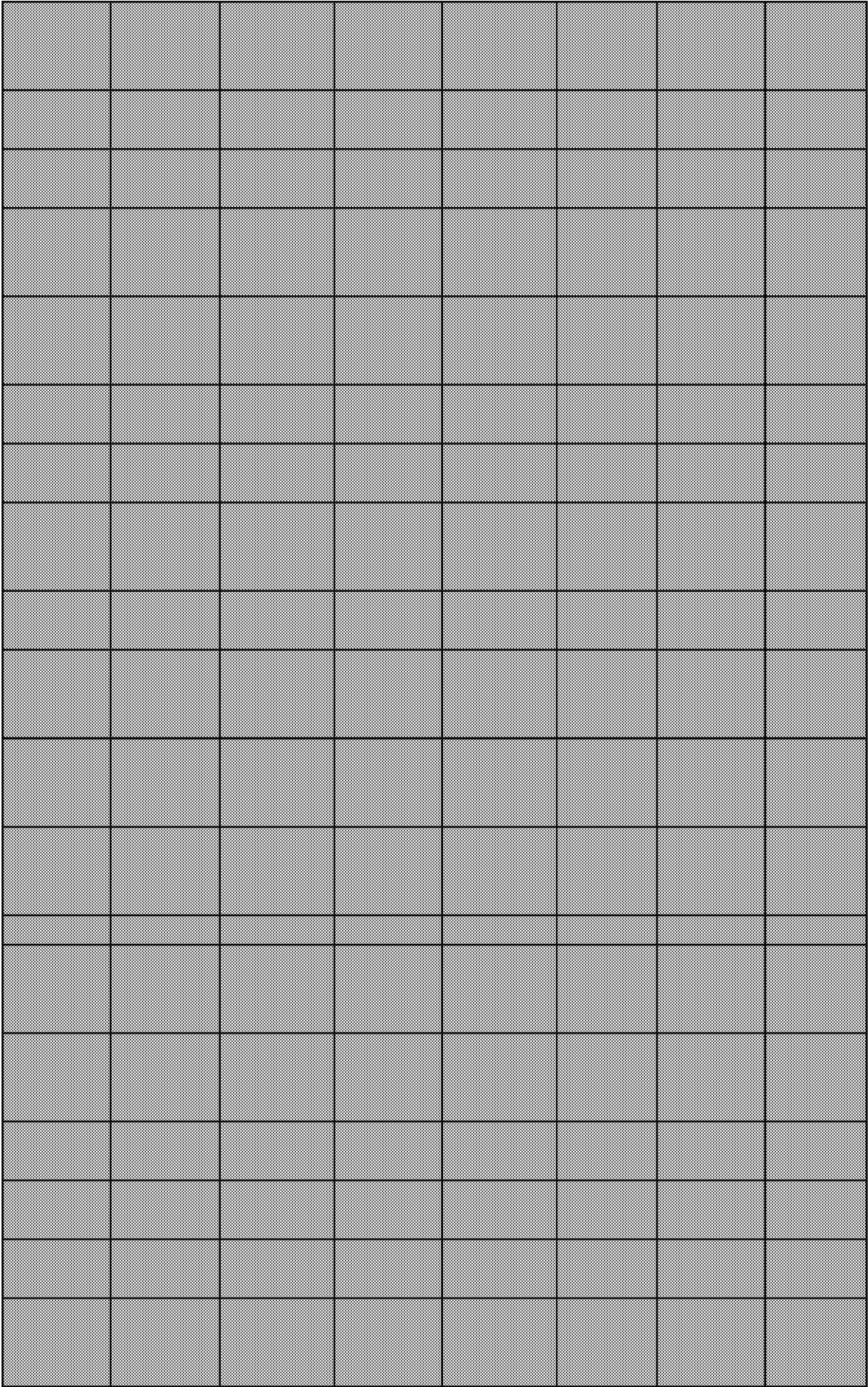


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The excited state dynamics and interfacial electron transfer of an optically scattering TiO ₂ powder suspension in alkaline
Time- and concentration-course studies were conducted to determine the effect of thirteen herbicides on photosynthesis
A [2]rotaxane self-assembles spontaneously by
Both short-term and long-term adaptations of cyanobacterial metabolism to light and dark were studied in <i>Nostoc</i> sp. M
This study revealed that the existence of heterojunction of ZrTiO ₄ /ZrTi ₂ O ₆ /TiO ₂ in the photocatalyst system has significa
A styrene based water soluble polymer containing pendant sulfonated calix[4]arene groups has been synthesized by usin
Soybean nodule bacteroids and <i>Bradyrhizobium japonicum</i> free-living cells induced for H ₂ -uptake hydrogenase, actively
NAD(P)H:nitrate reductase (NaR, EC 1.7.1.1-3) is a useful enzyme in biotechnological applications, but it is very complex i
The oxygen evolution associated with electron transport in spinach chloroplasts can be stimulated by low concentrations
The spectral properties of tetrapyrrolyl porphyrin covalently linked to polymer and copolymer of porphyrin
<i>Escherichia coli</i> EmrE protein is the archetypical member of the small multidrug resistance protein family in bacteria and
Laser excitation of solutions of o-tolyl vinyl ketone-methyl vinyl ketone copolymers leads to the formation of the short liv
Dinoterb, a contact herbicide, affects respiration and photosynthesis of mitochondria and chloroplasts. On mitochondria,
The effect of 2,3-dimercaptopropan-1-ol (BAL) on photosynthetic electron transport was studied in <i>Oscillatoria limnetica</i>
In this work we have studied the influence of lime-induced iron deficiency on some features of the thylakoids and PS II m
Changes of leaf pigments, ribulose-1,5-bisphosphate carboxylase (RuBPC) and photosynthetic efficiency were examined
Divalent cationic bipyridilium derivatives (Paraquat) have been widely used in agriculture; the primary target of these ch
One-step green microwave synthetic approach was developed for the synthesis of copper nanoclusters (Cu NCs) and use

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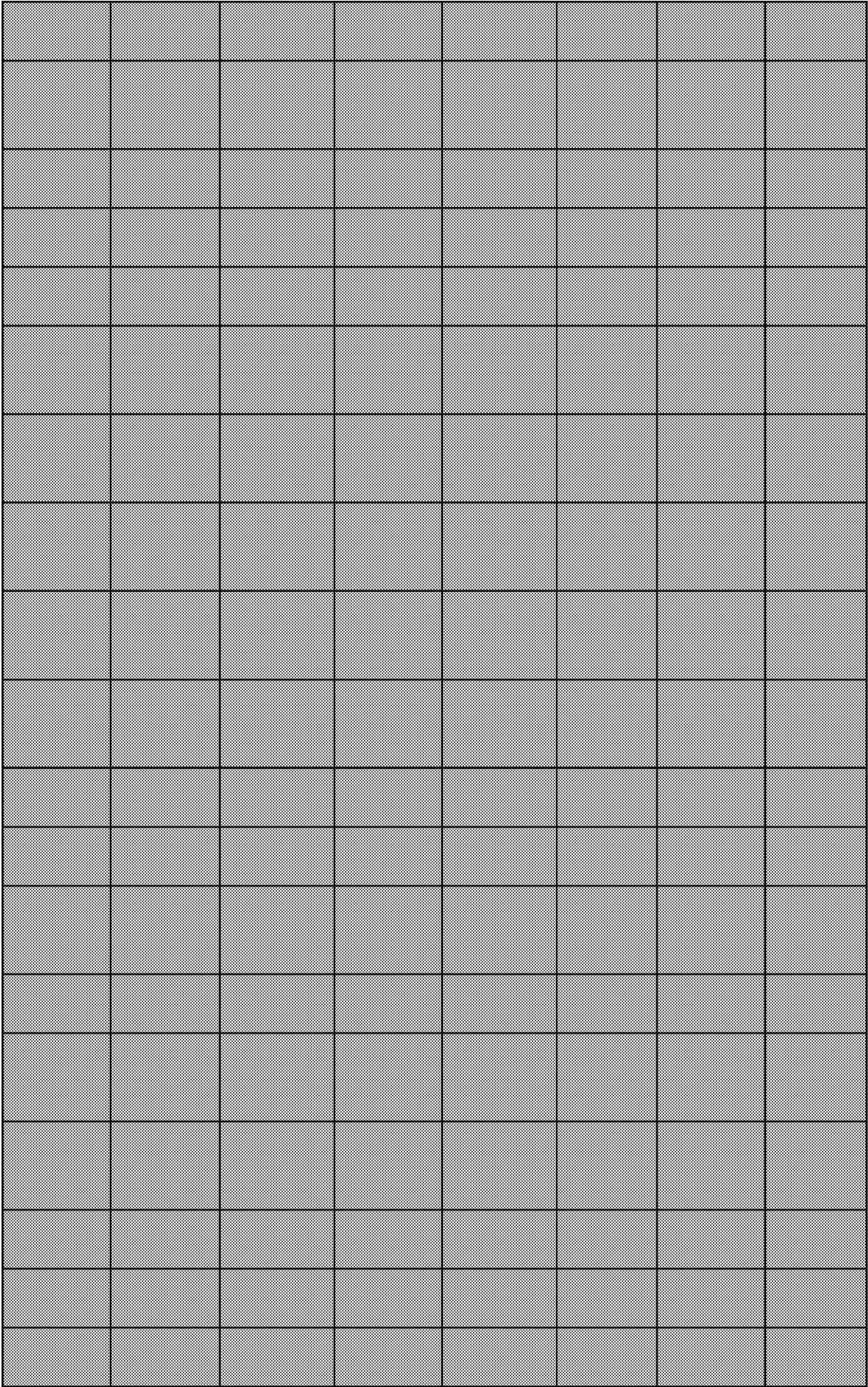
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Ferredoxin-dependent glutamate synthase (native enzyme) [EC 1.4.7.1] of spinach has been purified to homogeneity in t
Radiation induced effects on poly (p-sodium styrene sulphonate) (PSSS) of two molecular weights, namely 106 and 70,00
The interaction of the diacid chloride (2) of N,N
[FeFe] hydrogenases catalyze the rapid combination of protons and electrons into hydrogen, but their oxygen sensitivity
Melittin, a polypeptide component of bee venom, is an inhibitor of photochemical reactions in chloroplasts isolated from
It is common practice in biochemical research to assume that iron bound to desferrioxamine (DFO) to form ferrioxamine
Light-induced generation of superoxide radicals and hydrogen peroxide in isolated thylakoids has been studied with a lip
The electron-transfer reactions involving spinach ferredoxin and two Photosystem I herbicides, methyl viologen and 2,1,3
A hexagonal mesoporous silica (SiO ₂) was hydrothermally synthesized in alkaline media by using mixed cationic cetyltrim
The adsorption of the herbicide paraquat (PQ ²⁺) on the binary system titania
The adsorption of the herbicide paraquat (PQ ²⁺) on goethite and on the binary system humic acid
A method was developed for measuring adenosine 5'-triphosphate (ATP), adenosine 5'-diphosphate (ADP) and adenosine
Light dependent (35 Klux) chlorophyll bleaching in autotrophically grown <i>Euglena gracilis</i> cells at slightly acidic pH (6.5-5.
Summary In chloroplasts the enzyme violaxanthin de-epoxidase is responsible for the transformation of violaxanthin (Vic
The rate and extent of photoinduced electron transfer change significantly as a result of confinement in nanovolumes. St
Summary Paraquat was reduced by mouse lung microsome when incubated anaerobically with NADPH. The reaction was
1. 1. NADPH-dependent iron and drug redox cycling, as well as lipid peroxidation process were investigated in microsome
AbstractBackground <i>Entamoeba histolytica</i> , an intestinal parasite that is the causative agent of amoebiasis, is exposed to
The lifetime of triplet anethole (p-methoxy-?-methylstyrene) and its rate of electron transfer to paraquat dication in met

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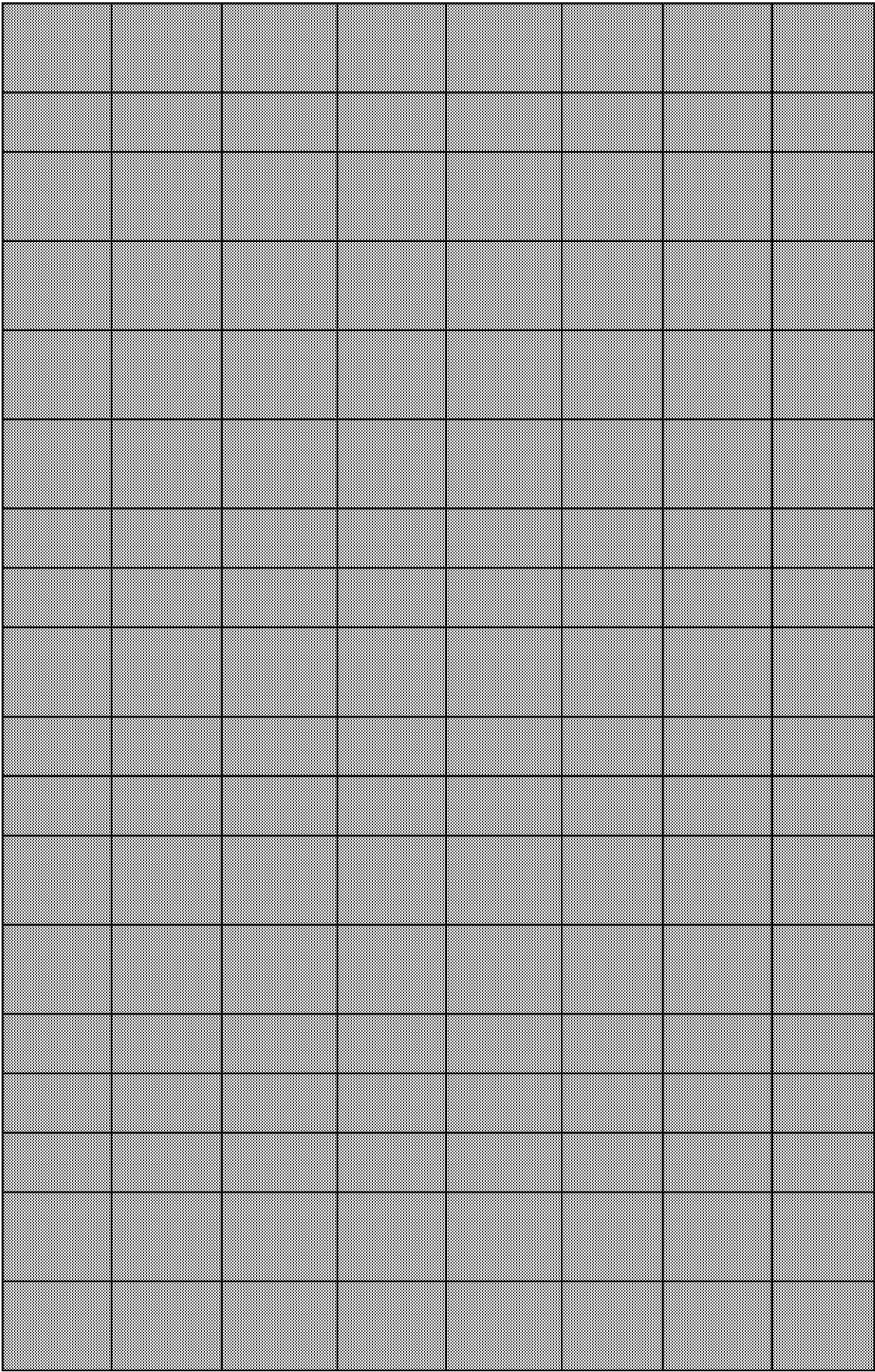
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Monolayers of CuII-complexes on electrode surfaces are frequently applied for the immobilization and controlled orientation of biomolecules.
The local wall shear stress (WSS) mapping in the rotating cage (RC) has been obtained from measuring the diffusion current of a redox probe.
The one-electron reduction product of 1-methyl-4-phenyl-2,3-dihydropyridinium ion has been generated by pulse radiolysis and characterized by laser Raman spectroscopy.
Summary Exposure of isolated Amaranthus chloroplasts to elevated temperatures (>25 °C) results in a rapid loss of photosynthetic activity.
Well-ordered cubic FDU-12 type mesoporous silicas functionalized with various contents of carboxylic acid group (COOH) have been synthesized by a sol-gel process.
Summary Exposure of chloroplasts to strong visible light in the presence of DCMU and paraquat resulted in lipid peroxidation and release of superoxide anion.
Rat liver microsomes and purified NADPH-cytochrome c reductase metabolized [14C]misonidazole anaerobically to a range of products.
A fluorescent pyrene derivate, N-allyl-1-pyrenemethylammonium hydrochloride (APA+), was reported to form a stable helical dimer in aqueous solution.
Effects of butachlor, bensulfuron-methyl, and dimethoate on the growth, photosynthesis, and photoinhibition of the edible bean (Phaseolus vulgaris L.) were studied.
The metal-mediated site-specific mechanism for free radical-induced biological damage is reviewed. According to this mechanism, the metal ion acts as a catalyst for the generation of free radicals.
The photoinduced electron transfer between either cationic 5,5'-dichloro-3,3',9-triethylthiacarbocyanine (1) or a structurally related dye and a series of electron acceptors was studied.
Summary Mechanisms by which higher levels of Zeaxanthin (Zx) in detached wheat leaves, induced by ascorbate in vivo, are related to the activity of ascorbate oxidase.
1. 1. The photooxidation of 3,3'-diaminobenzidine was investigated in whole cells of the wild-type and two mutant strains of Escherichia coli.
One-month-old pea seedlings (Pisum sativum L. cv. Bonneville) raised in sand culture, were provided with a nutrient solution containing different concentrations of paraquat.
A simple and low cost flow injection colorimetric system has been developed for determination of paraquat in natural water samples.
Oxygen radicals play both pathological and physiological roles in biological systems. The detection of such radicals is difficult and the development of sensitive and specific probes is a major challenge.
The hydrogenase of Rhodospseudomonas capsulata is an intrinsic membrane protein extractable from the membrane by treatment with detergents.
We report the convenient synthesis of a pyrrole-functionalized tetracationic cyclophane, [2]rotaxane, and [2]catenane. X-ray crystallographic analysis of the [2]rotaxane shows that the pyrrole ring is located inside the macrocyclic cavity.

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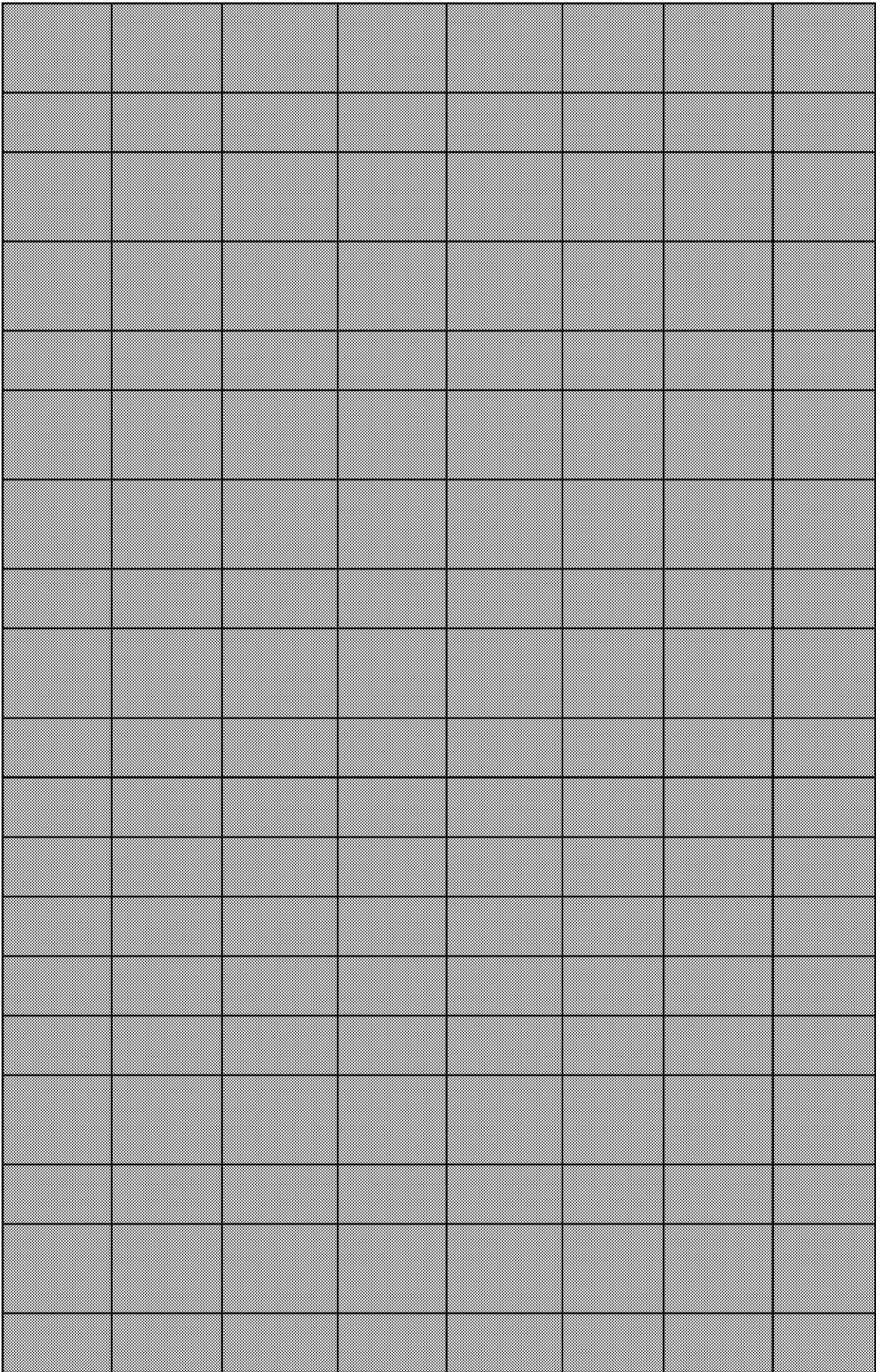
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Chlorophyll fluorescence measurements were performed on osmotically lysed potato chloroplasts in order to characterize
The immobilization of nitrate reductase (NR) was performed by entrapment in a laponite clay gel and cross-linking by glutaraldehyde
The effects were studied of the plastoquinone analogs 2,5-dibromo-3-methyl-6-isopropyl-p-benzoquinone (DBMIB) and tetrachloro-2,5-dimethyl-p-benzoquinone (TCMQ)
Suspensions of lecithin vesicles incorporating zinc tetraphenylporphyrin in high and low local concentrations (lipid-to-porphyrin ratio)
The structure-function relationships in nitrite reductases, key enzymes in the dissimilatory denitrification pathway which are involved in the nitrogen cycle
Effects of two fertilizers, NH ₄ Cl and KCl, on the growth of the edible cyanobacterium <i>Gelebricella</i>
The effect of amino acid residues modification of <i>Desulfovibrio gigas</i> hydrogenase on different activity assays is reported
This study compared the effect of loading apoferritin either with ferrous ammonium sulfate in various buffers or with cerium(IV) ammonium nitrate
Chemically modified carbon electrodes are prepared which hold polymeric layers of anthraquinone or dopamine units on their surface
The toxicity of paraquat is due to the oxygen-derived radicals formed by the reaction of oxygen with bipyridylum radical cation
Various electrochemical advanced oxidation processes (EAOPs) including anodic oxidation (AO), electro-Fenton (EF) and electro-peroxide (EP)
The catalytic wet peroxide oxidation (CWPO) method was applied to the degradation of paraquat, a widely used and highly toxic herbicide
The stoichiometry of H ⁺ and electron transport in spinach chloroplasts was very sensitive to the presence or absence of thylakoid membranes
Sodium salicylate (NaSAL) has been shown to be a promising antidote for the treatment of paraquat (PQ) poisonings. The mechanism of action is still unclear
We have investigated the effect of paraquat (methyl viologen) on lipid peroxidation in bovine adrenal cortex mitochondria
The thermophilic facultatively phototrophic green bacterium <i>Chloroflexus aurantiacus</i> strain Ok-70-fl was shown to possess a high level of resistance to paraquat
Activity staining after non-denaturing polyacrylamide gel electrophoresis (PAGE) of extracts from nitrate-treated plants indicated the presence of nitrate reductase
Fe-hydrogenase from <i>Enterobacter cloacae</i> IIT-BT08 was purified 1284 fold with specific activity of 335 μ mol H ₂ /min/mg protein
Summary It was found that hydrogen was produced from 1,4-dihydronicotinamide derivatives such as 1-benzyl-1,4-dihydronicotinamide

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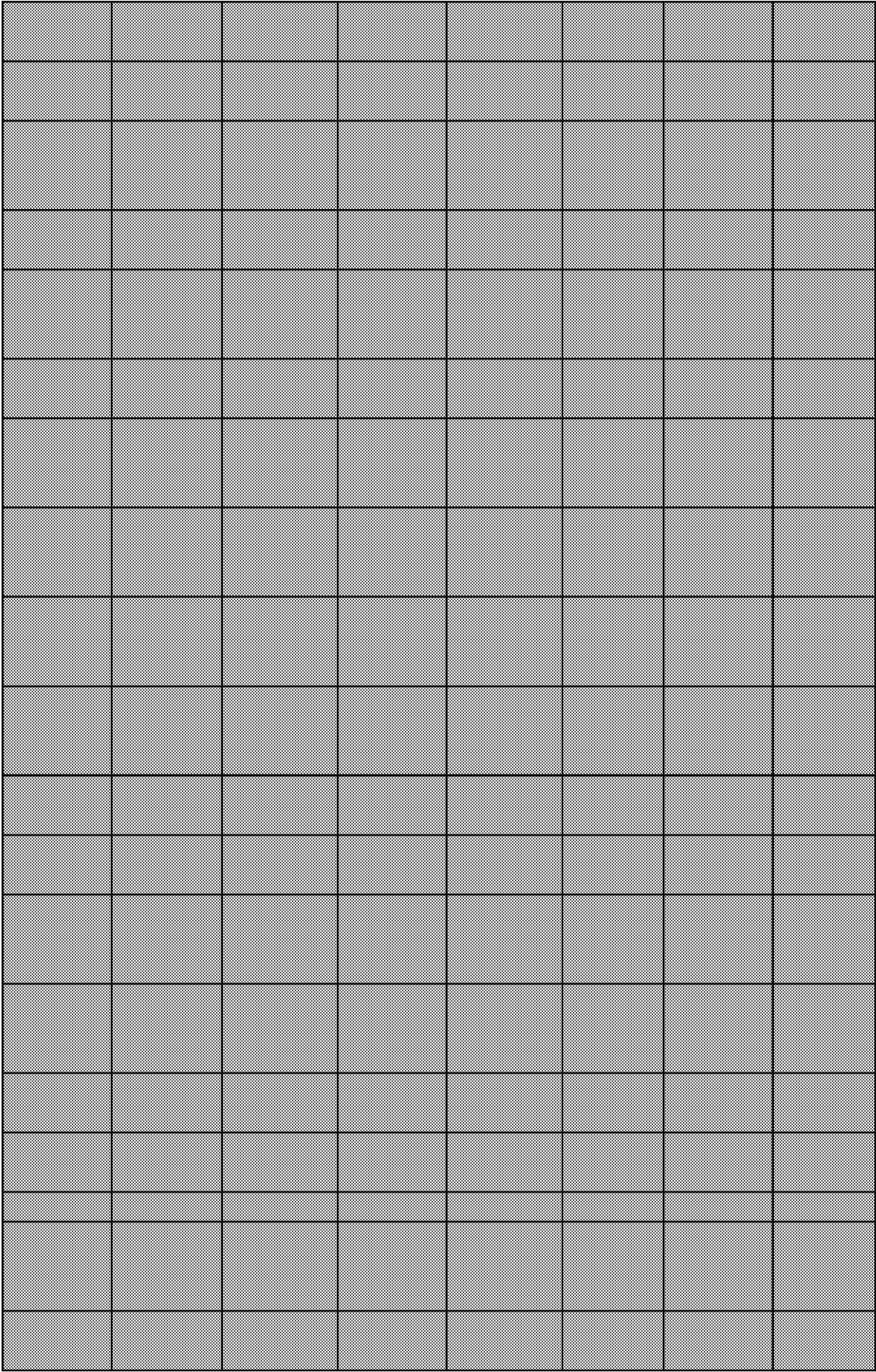
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Plants are often submitted, in their natural environment, to various abiotic stresses such as heat stress. However, elevated
Analysis of fast chlorophyll fluorescence rise OJIP was carried out to assess the impact of diuron, paraquat and flazasulfuron
Antibodies were raised in mice against the 42 kDa subunit of the soluble hydrogenase purified from the cyanobacterium
The changes in the activity of the pentose phosphate cycle produced by the activation or inhibition of different NADPH-c
This paper describes the construction of silver particles-impregnated carbon paste electrode (Ag-CPE). The new electrode
This paper reports on the use of electrochemical impedance spectroscopy (EIS) for analytical determination of paraquat in
The electrochemical determination of aqueous paraquat PQ(II) by differential pulse voltammetry at a solid rotating silver
1. Rate constants for reduction of paraquat ion (1,1'-dimethyl-4,4'-bipyridyl-lum, PQ2+) to paraquat radical (PQ+
This Letter reports the design and synthesis of a new type of hydrogen bonding-mediated foldamer-derived tweezer rece
It has previously been shown that Desulfovibrio gigas hydrogenase, as isolated, has a relatively low activity in the hydrog
We determine the relative abilities of three bipyridyls (Paraquat P ++, Benzylviologen B++ and Diquat D++) to stimulate in
Fragments of spinach nitrate reductase (NR) were prepared by limited proteolysis of immunopurified enzyme using both
Aquatic ecosystems are exposed to an increasing contamination of pesticides such as herbicides through water runoff. Th
An overexpression system for nitrous oxide reductase (N2OR), an enzyme that catalyzes the conversion of N2O to N2 and
Water-soluble p-sulfonatocalix[7]arene 1 has been synthesized in good yield through standard procedures and its confor
Over the last decades, paraquat (1,1'-dimethyl-4,4'-bipyridilium dichloride; PQ) has been involved in numerous fatalities
The generation of deleterious activated oxygen species capable of damaging DNA, lipids, and proteins requires a catalyst
Reaction of di(p-isocyanatophenyl)methane (MDI, 4) with N,N'-di(2-hydroxyethyl)- (1b) or N,N'-di[2-(2'-hydroxyethoxy)]
Summary Purple bacteria Rhodospirillum rubrum and Thiocapsa roseopersicina form two enzymes, hydrogenase and nit

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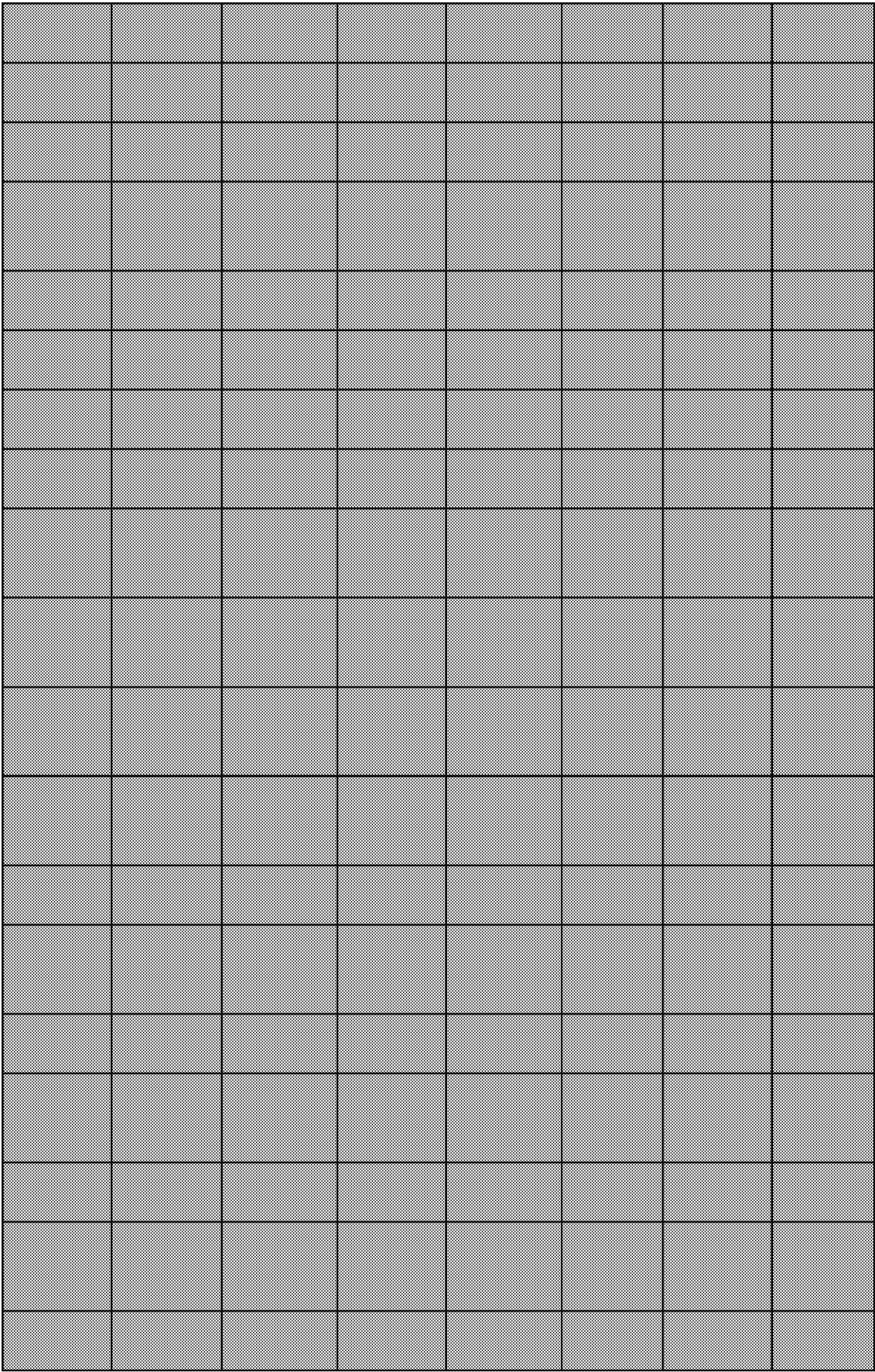
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The covalent binding of the viologen N-methyl-N ⁺ -(aminopropyl)-4,4'-bipyridinium (APMV) to the flavoprotein ferredoxin
The diamine, putrescine, is accumulated into slices of rat lung by a temperature and energy dependent process similar to
Photocatalysed regeneration of NAD(P)H is accomplished with CdS semiconductor powder and TiO ₂ colloids using forma
We have measured the decay of chlorophyll a fluorescence at 4
The two-electron gate of Photosystem II (PSII) is known to function by transferring electrons from the reduced one electr
Synthalin, decamethylene diguanidine, has been found to act as an energy-transfer inhibitor in chloroplasts. Both ATP for
A porphyrin strapped by a dibenzo- crown ether was synthesized and shown by ¹ H nmr spectroscopy to bind paraquat in
Ni-containing Carbon Monoxide Dehydrogenases (CODHs) catalyze the reversible conversion between CO and CO ₂ and a
Summary Tetraethyl lead (Et ₄ Pb), which is used as an anti-knock agent in gasoline, was transformed to the toxic triethyl l
Photoinhibition of PSII occurs at the same quantum efficiency from very low to very high light, which raises a question ab
Spinach chloroplasts, isolated rapidly in isotonic media will reproducibly give photosynthetic control rates (State 3/State
Desulphoviridin in the oxidized state showed EPR signals around g = 6, consistent with the sirohaem being in the high-spi
Soluble NAD-reducing [NiFe]-hydrogenase (SH) from <i>Ralstonia eutropha</i> (formerly <i>Alcaligenes eutrophus</i>) has an infrared
Energetically-coupled processes (electron flow, proton uptake and correlated pH gradient) were investigated on envelop
The reduction potential of Fe ³⁺ in transferrin was measured spectrophotometrically by equilibration with methyl violog
Uptake and compartmentation of paraquat was investigated in intact roots of hydroponically grown maize (<i>Zea mays</i> L.)
The generation of free radicals under various conditions in the presence of methyl viologen (MV ²⁺) was investigated in c
It was found that when <i>Escherichia coli</i> is grown in the presence of 0.2
Modified prosthetic metalloporphyrin, having a total of eight carboxylate groups at the terminal of two peripheral propic

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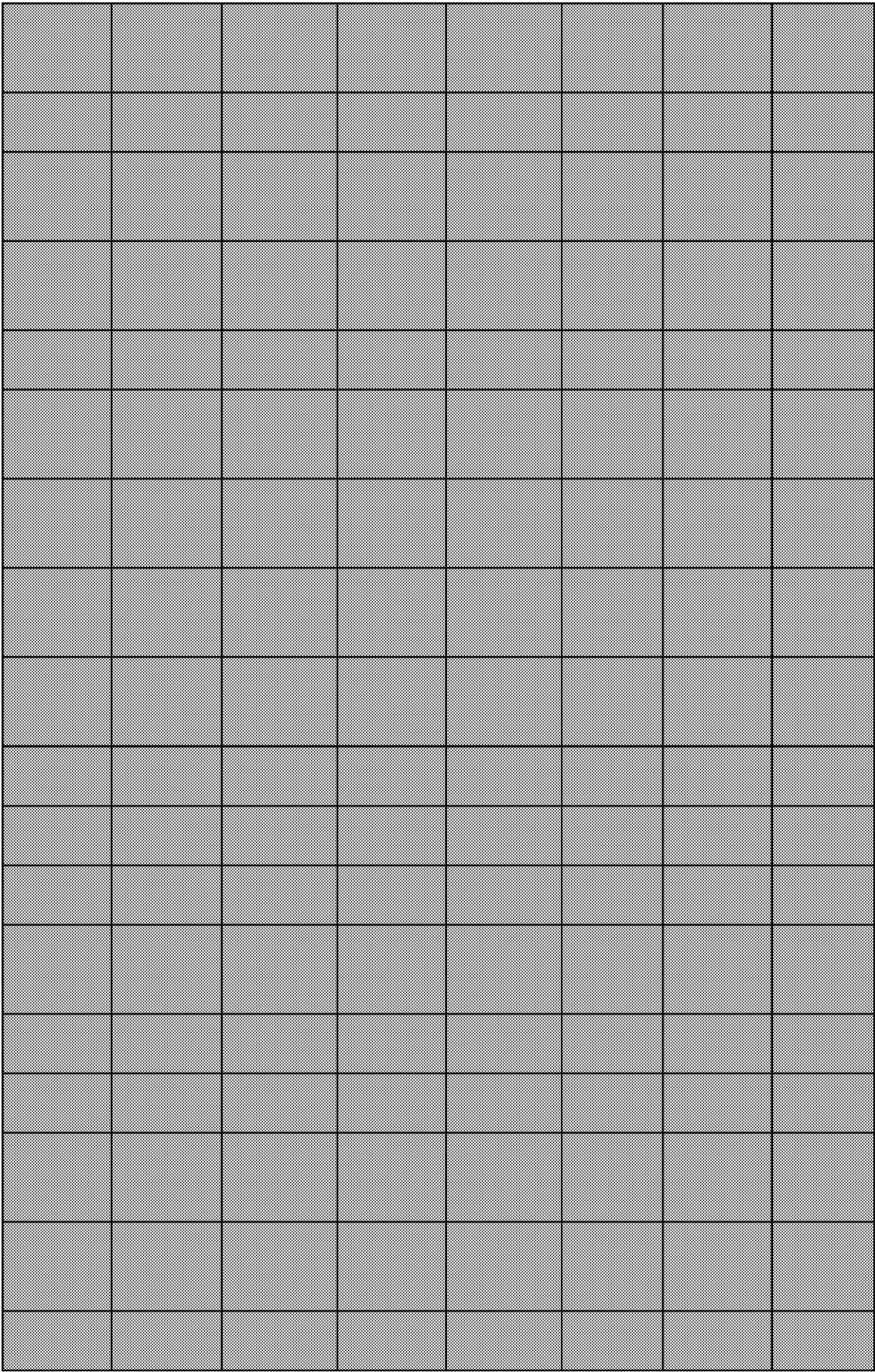
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A suspension of isolated chloroplasts partially binds ethyl red, a pH-indicator dye. Using differential spectrophotometry a
Titration of beef heart cytochrome c oxidase with electrochemically generated reductant, methyl viologen cation radical
Mixtures of cytochrome c oxidase and cytochrome c have been titrated by coulometrically generated reductant, methyl v
Summary The effects of zinc deficiency on sugar beet chloroplasts' ultrastructure and photochemical ability, as well as on
The gastrointestinal absorption of paraquat (1,1'-dimethyl-4,4'-bipyridylum) was studied using the isolated mucosa from
Recent preparations of nitrite reductase do not display the heterodimeric quaternary structure obtained previously (total
Treatment of ferredoxin-dependent nitrite reductase, isolated from spinach leaves, with either the lysine-modifying reagent
The native, ferredoxin-linked, form (Mr = 85 000) of nitrite reductase (ferredoxin:nitrite oxidoreductase, EC 1.7.7.1) form
Treatment of nitrite reductase with an 8
The reductases of the denitrification pathway of <i>Bacillus stearothermophilus</i> , a thermophilic denitrifier, were surveyed in
Leaves of <i>Spinacia oleracea</i> inoculated with tobacco mosaic virus (TMV) strain PV230 develop mild chlorotic and mosaic s
The proton uptake, ?H^+ , associated with turnover of the quinone reduction site (here termed the Qn site
Heat treatment of spinach thylakoids or Photosystem I particles in the presence of ethylene glycol caused the selective d
Sol
We recently demonstrated that chloroplast small HSP26 (sHSP26) is abundant in maize leaves under heat stress and pote
Chitin grafted poly (acrylic acid) (chi-g-PAA) is synthesized and characterized as an adsorbent of toxic organic compounds
Liver ferritin of <i>Dasyatis akajei</i> (DALF) with mass spectrum purity was prepared in batches. Transmission electron microsc
? -Thymosins sequester G-actin and preserve a pool of monomers of actin which constitute an important prerequisite for

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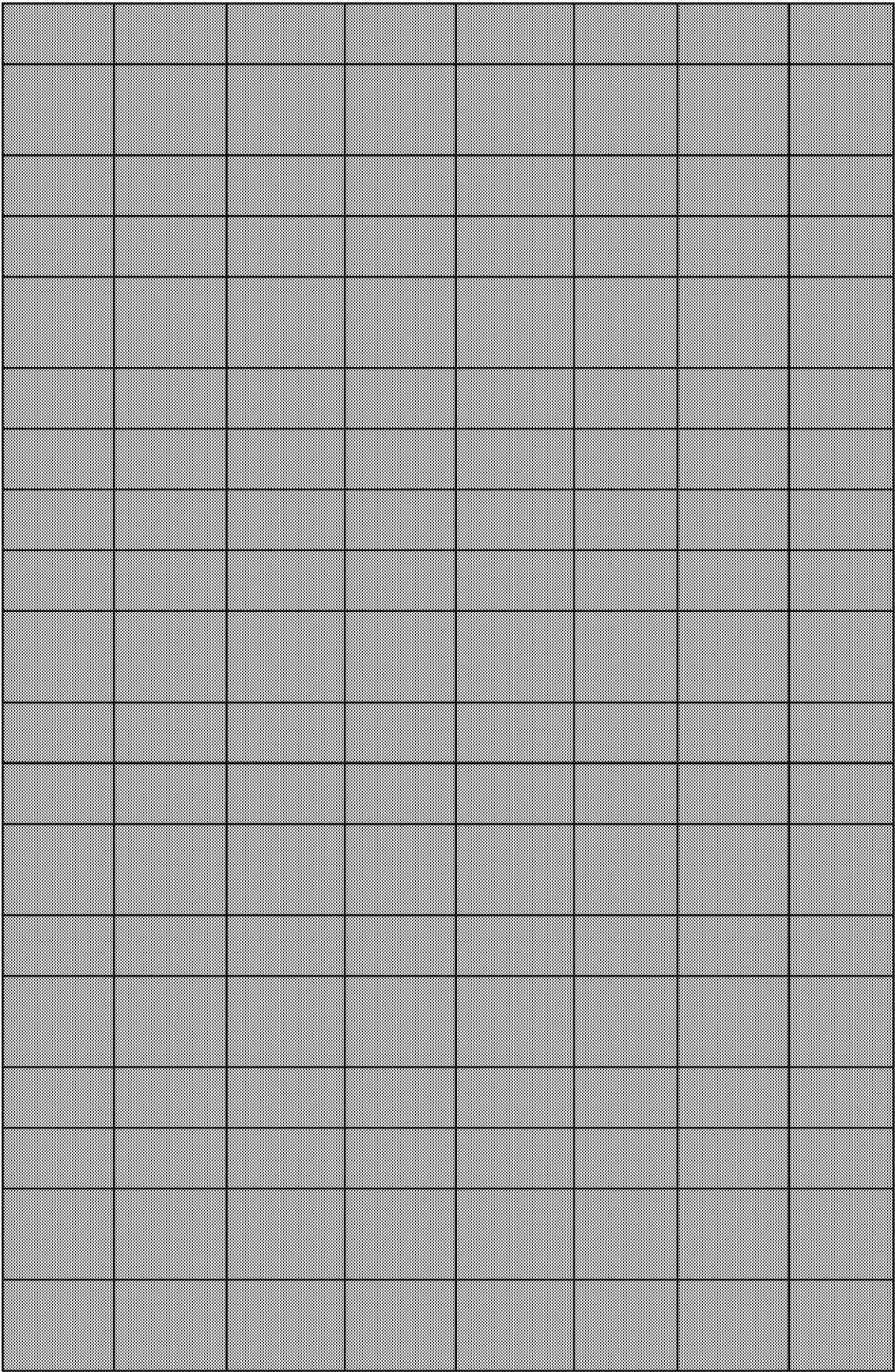
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Plants were grown in field conditions in the wide area under normal water supply and severe water deficit. Two wheat (T
An improved procedure for the purification of ferredoxin-nitrite reductase (ammonia:ferredoxin oxidoreductase, EC 1.7.1
The kinetic properties for the native forward reaction of pyruvate:NADP ⁺ oxidoreductase from <i>Euglena gracilis</i> were dete
Pyruvate:NADP ⁺ oxidoreductase from <i>Euglena gracilis</i> , a homodimeric protein with a molecular weight of 309 kDa, is an
Ferredoxin-nitrite reductase (EC 1.7.7.1), an enzyme which catalyzes the 6-electron reduction of nitrite to ammonia, has
The concentration of the ruthenium-based label is determined from the rate of hydrogen peroxide production elicited by
Several derivatives of 1-methyl-4-phenylpyridinium (MPP ⁺), i.e., 1-methyl-4-(4'-nitrophenyl)pyridinium (1), 1-methyl-4-(4
Comparative analysis of in vivo chlorophyll fluorescence imaging revealed that photosystem II (PSII) photochemical effici
N-ethylmaleimide (NEM) and N,N'-(1,4-phenylene)dimalimide (PDM) were discovered to stimulate light-induced oxygen
The oxidation of the PQ-pool after illumination with 50 or 500 ?mol quanta m ⁻² s ⁻¹ was measured in isolated thylakoids
Bovine and guinea pig heart homogenates, porcine leukocyte homogenate, and human hemolysate were found to vigor
The solution obtained by oxidizing some of the ascorbic acid to dehydroascorbic acid by reaction with potassium iodate is
Photosensitization of paraquat with photosynthetically active radiations (PAR) induced substantial production of both the
The existence of a novel C-1 pathway for CO ₂ fixation was established in chloroplasts isolated from greening potato tube
The primary process in quantum dot solar cells is electron transfer between excited state QDs and semiconductor. There
PSI is one of the two photosynthetic reaction centers in the chloroplast of higher plants. It functions as a plastocyanin:fer
Two hydrogenases, differing in their specificity for the electron carrier F420, were present in cell-free extracts of Methan
In preceding papers ^{2,3} a new amperometric method was described for the detection of photosynthetic oxygen productio

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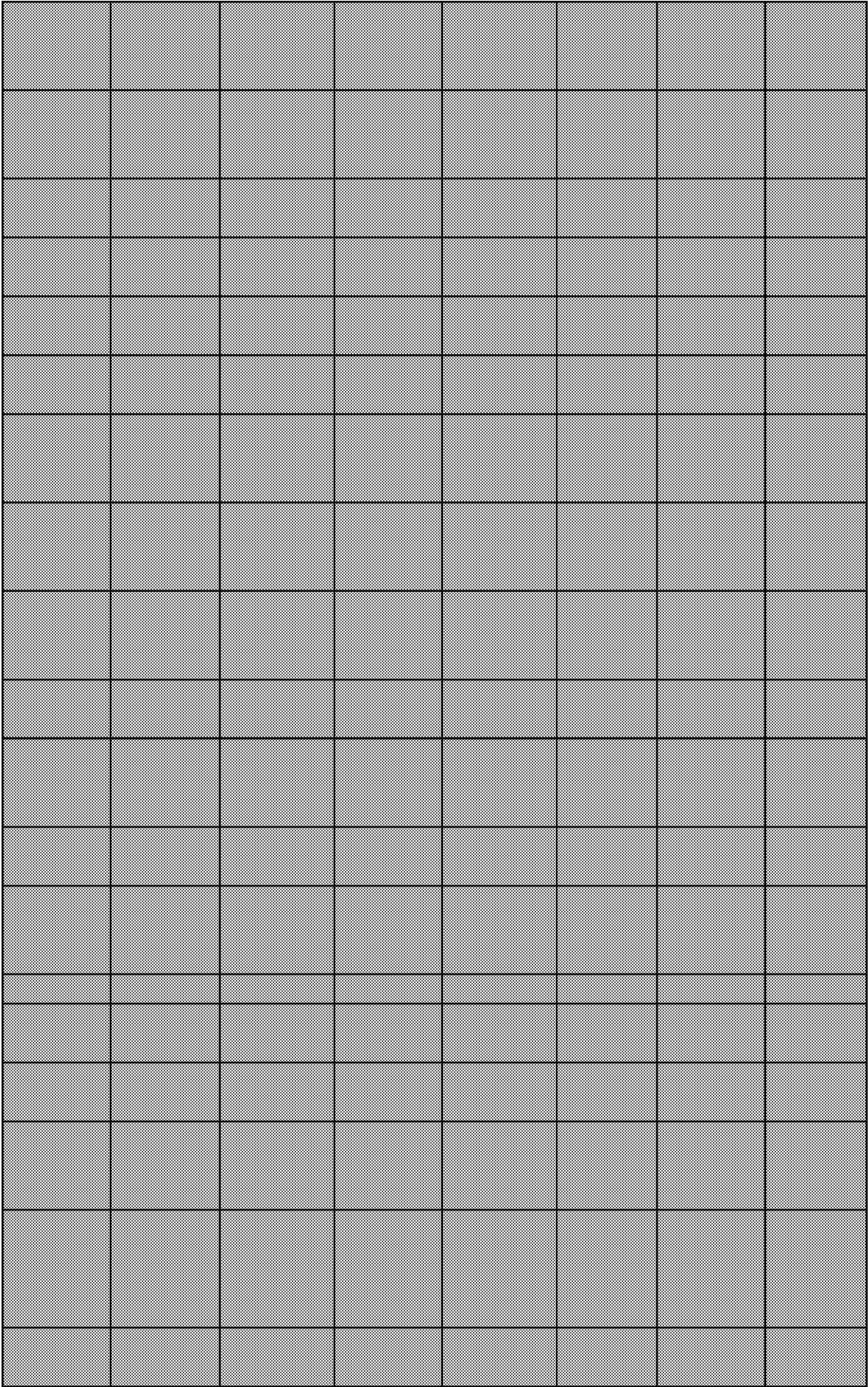
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Ralstonia eutropha was cultivated under oxidative conditions in the presence of hydrogen peroxide and methyl viologen
Manganese(III) meso-tetrakis(4-carboxyphenyl)porphyrin (MnTBAP) is a readily available and widely used agent to scavenge
Reduction and subsequent aggregation of silver ions in the presence of various chelating agents such as trans-1,2-diamin
Summary Electrodes coated with polycrystalline chlorophyll a, pheophytin a, pheophorbide a, methyl chlorophyllide a or
Photosystem I (PSI) is one of the most efficient biological macromolecular complexes that converts solar energy into con
FMN or methyl viologen stimulated anaerobic reduction of tertiary amine N-oxides by liver microsomes and this stimulat
Methylene blue competes 100 to 600 times more effectively than paraquat for reduction by three different flavo-contain
The soluble nitrate reductase of Rhizobium japonicum bacteroids has purified and its properties compared to those of ae
To test the hypothesis that bacteriostasis by Paraquat (N, N'-dimethyl bipyridylum chloride) is dependent on its effect o
The influence of temperature on the activity of the herbicide acifluorfen (AF) (2-chloro-4-(trifluoromethyl)phenoxy-2-nitr
It was found that the contribution of segments of photosynthetic electron transport chain (PETC) besides Photosystem I (
Measurements were made of the effect of dicationic (oxidized) and monocationic radical (reduced) forms of benzyl violo
A new layered compound, [MV][{Mn(CH ₃ OH) ₂ }{Re ₆ Se ₈ (CN) ₆ }] (1) consists of a layer alternately knitted by hexarhenium
The photogeneration of nicotinamide adenine dinucleotide hydrophosphate (NADPH) and its associated reaction were st
Reactions of H, OH, e ⁻ aq and some one-electron oxidants have been studied with salicylic acid and 5-sulpho-salicylic aci
1. 1. Analysis with sodium dodecyl sulfate polyacrylamide gel electrophoresis and High Performance Liquid Chromatogra
NAD(P) H-dependent reduction of nicotinamide N-oxide was investigated with rabbit liver preparations. Microsomes, mi
O ₂ reduction was investigated in photosystem I (PS I) complexes isolated from cyanobacteria Synechocystis sp. PCC 6803

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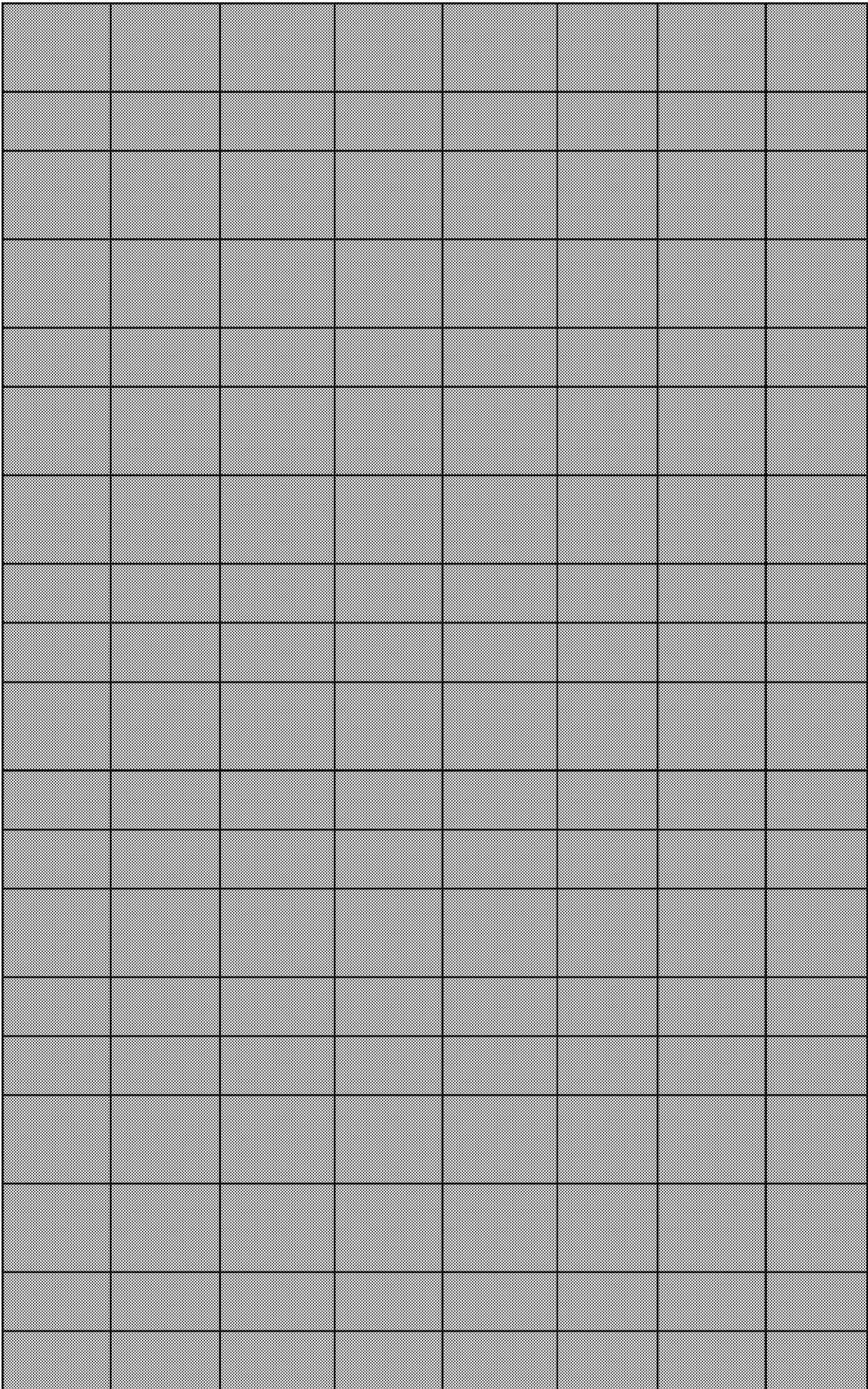
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The activation of the ATPase in intact cucumber leaves has been studied, using a novel instrument developed for the mea
We have measured the equilibrium constant for the reaction by which the plastoquinol: plastocyanin oxidoreductase (bf
The first spectroelectrochemical measurement of the formal reduction potential of iron transferrin has been carried out
Formate dehydrogenase and fumarate reductase are involved in the electron transport phosphorylation system of Vibrio
This study deals with the effects of the agents that dissipate the individual components of the proton motive force (short
Previously, it has been shown that treatment of <i>Paracoccus denitrificans</i> cells with phenylglyoxal inhibits the methyl-viol
The controversial subject of nitrate transport into the denitrifying cells of <i>Paracoccus denitrificans</i> was studied employing
A new photo-bioreactorsystem in which a photocatalysis in a light stage is separated from a biocatalysis in a dark stage is
While its main current use is that of a feedstock in the chemical and petrochemical industry, molecular hydrogen can also
We have investigated the effect of heat-treatment of chloroplast thylakoid membranes on photosystem I-mediated elect
The formation of nitrite reductase and cytochrome c in <i>Micrococcus denitrificans</i> was repressed by O ₂ . The purified nitrit
A nitrate reductase from <i>Micrococcus denitrificans</i> (N.C.I.B. 8944) was associated with cell membranes. This particulate s
Bundle sheath strands free of mesophyll contamination were isolated from 3
A study is reported about the adsorption of the herbicide paraquat (PQT ₂ ⁺) by the polymeric resins Amberlite XAD-2 and
A new method for the isolation of photosynthetic membranes from the cyanobacterium <i>Spirulina maxima</i> has been deve
Cyclic voltammetric and chronoamperometric experiments were performed on the neurotoxin, 1-methyl-4-phenyl-1,2,3,
Rat liver microsomes catalyze a vanadate-stimulated oxidation of NAD(P)H, which is augmented by paraquat and suppre
Vanadate augments the oxidation of NAD(P)H, but not of NMNH, by rat liver microsomes. Paraquat increases the vanada
To better understand the characteristics of peritubular transport of organic cations (OCs), the uptake of the polyvalent O

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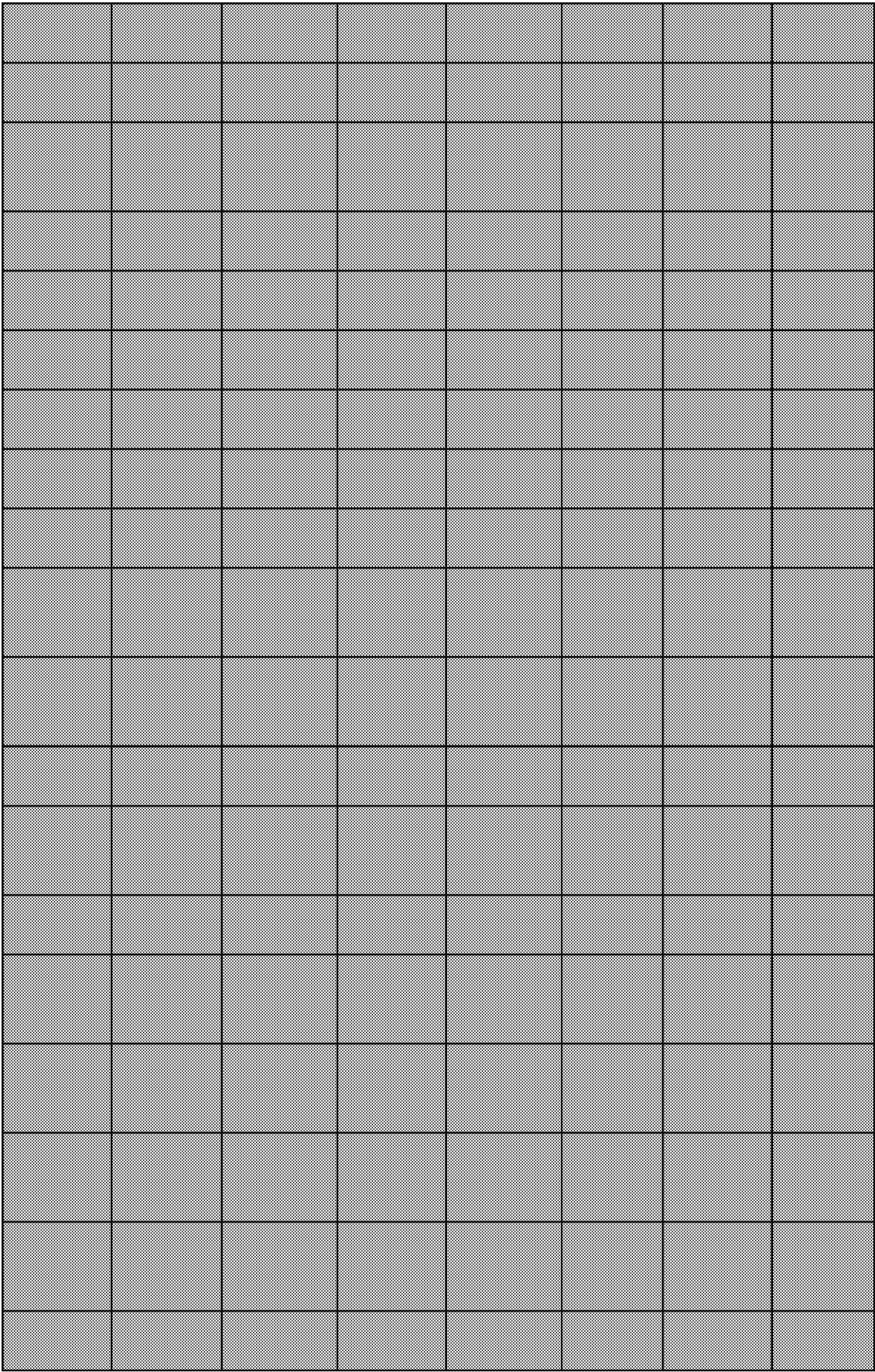
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The decay kinetics of the photovoltage formed on pulsed illumination of a chlorophyll a- (chl a-) containing lecithin-bilayer
The ability to assimilate nitrate in non-axenic isolates of <i>Prochlorococcus</i> spp. was addressed in this work, particularly in
Two new Ru(II) complexes, [Ru(bpy) ₂ (1-COO-iqu)] ⁺ (2; bpy = 2,2'-bipyridine, 1-COO-iqu = isoquinoline-1-carboxylate) and
The spectroelectrochemical method using optically transparent electrodes has been applied to the evaluation of the kinetic
RNA molecules with multiple pyrenylmethyl substituents on the 2'-O-sugar residues can form duplexes with complementary
The mechanism(s) by which paraquat (1,1'-dimethyl-4,4'-bipyridinium), a divalent organic cation (OC) and proximal tubule
The molybdoenzyme NADH-nitrate reductase (NADH : nitrate oxidoreductase, EC 1.6.6.1) from spinach can be inactivated
An electrometrical technique was used to investigate electron transfer between the terminal iron
Summary Chlamydomonas cells contain two enzymes with glutamate synthase (GOGAT) activity, which are specific, respectively
The utilization of ammonium by Chlamydomonas is mainly a light-dependent process, mediated by the glutamine synthetase
Haloferax mediterranei is a halophilic archaeon that can grow in aerobic conditions with nitrate as sole nitrogen source. The
The photophysical properties of 1,1'-dimethyl-4,4'-dipyridinium (methyl viologen, MV ²⁺) intercalated within zirconium phthalocyanine
The nitrite reductase from the extreme halophilic archaeon, Haloferax mediterranei, has been purified and characterised
The phenomenon of solubilization of chlorophyll in micellar solutions of surfactants is studied by measuring the dependence
Azotobacter vinelandii hydrogenase was purified aerobically with a 35% yield. The purified enzyme catalyzed H ₂ oxidation
Summary The spectropotentiostatic technique using an optically transparent thin-layer electrode to measure U _o ' and n _o
Comparison of photochemical activities and variable fluorescence yield characteristics of whole cells and isolated chloroplasts
A square wave voltammetry (SWV) method for the determination of trace amounts of paraquat at carbon paste electrode
The new ligands 4,4'-diphenyl-6,6'-di(4-ethoxycarbonylphenyl)-2,2':6',2'-terpyridine (H4), its non-carboxylated 4,6,4',6',4'',6''-hexakis(4-ethoxycarbonylphenyl)-2,2':6',2'-terpyridine (H4'), and its

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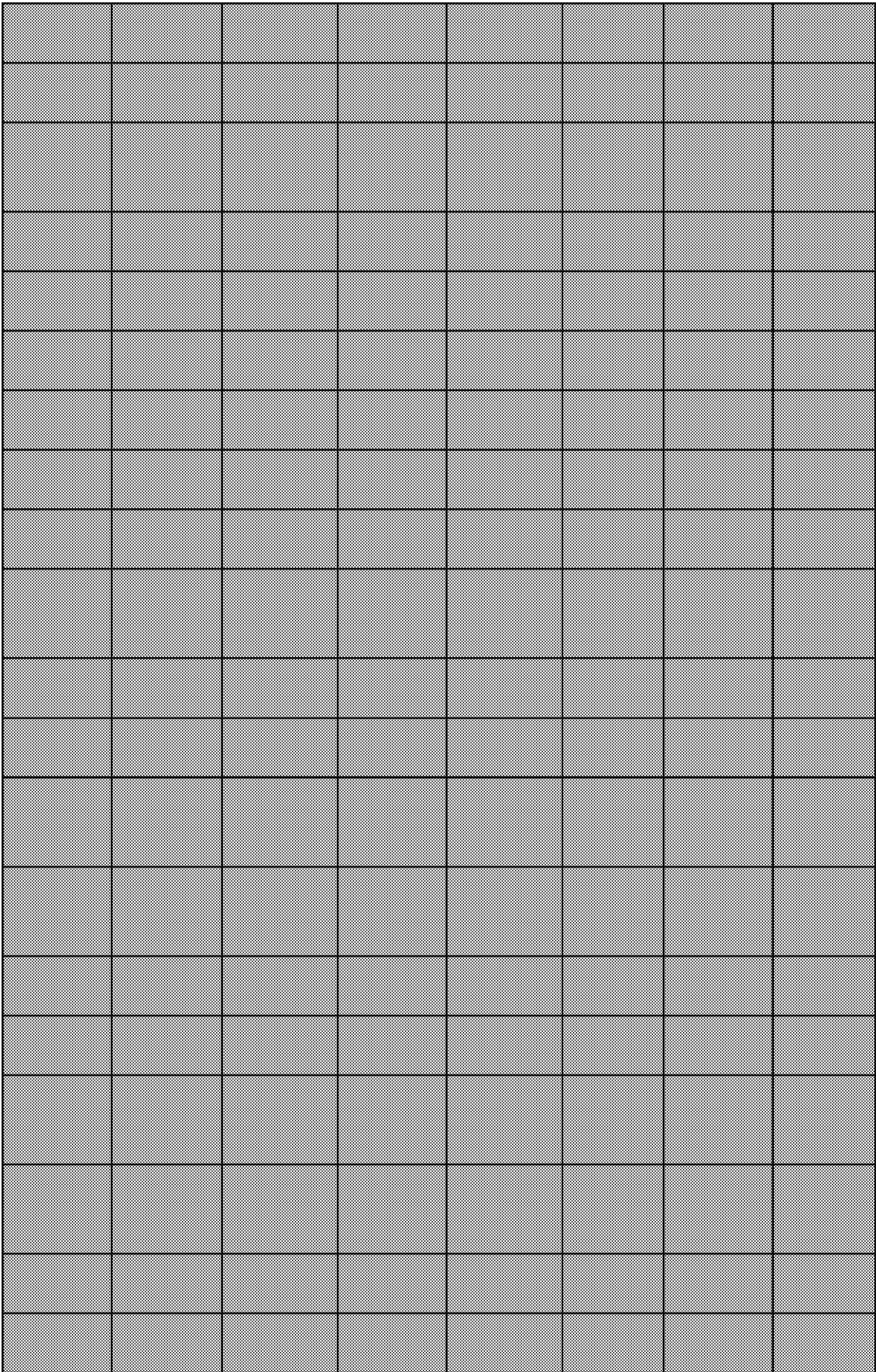
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The new ligand 4-carboxy-4'-p-tolyl-2,2':6',2''-terpyridine (HtptyA) was prepared in complexed form via the methyl ester
Illumination of intact pea chloroplasts results in both the pH activation and the thiol modulation of the reversible proton
Thiol modulation of the chloroplast protonmotive ATPase (CF ₀ -CF ₁) by preillumination of broken chloroplasts in the pres
To characterize more fully the nature of the fluorophores present in the dissolved organic matter found in seawater, stea
Photoinduced reactions of methyl viologen MV ²⁺ in cellophane, have been studied by steady state and pulsed laser tech
The behaviour of the reduction products of the herbicide paraquat (1,1'-dimethyl-4,4'-bipyridilium dichloride) and 1-eth
Ascorbic acid and paraquat produce an efficient redox pair which will deplete oxygen from physiological buffer systems.
The cytotoxicity of many xenobiotics is related to their ability to undergo redox reactions and iron dependent free radical
A photosystem for hydrogen peroxide photoproduction formed by immobilized cells of the blue-green alga, <i>Anabaena variabilis</i>
Electron transfer rate were measured for methyl viologen-hexacyanoferrate and methyl viologen-hydroquinone complex
Inert, porous gels of agarose can be coated onto electrodes. Impregnation of Nafion into agarose coatings creates porous
Perfluorone (1,1,1-trifluoro-N-[2-methyl-4-(phenylsulfonyl)phenyl]methanesulfonamide) was shown to interfere with ph
The effects of DDT, some of its analogs, and selected cyclodiene insecticides on isolated spinach (<i>Spinacea oleracea</i> L.) th
The development of a Microsoft
The fabrication, in situ spectroelectrochemistry and colour measurement of hybrid electrochromic devices (ECDs) based
The changes observed photosystem I activity of lettuce plants exposed to iron deficiency were investigated. Photooxidat
Pulsed laser studies and phosphorimetry have been used to investigate the reaction of O ₂ and methyl viologen with the

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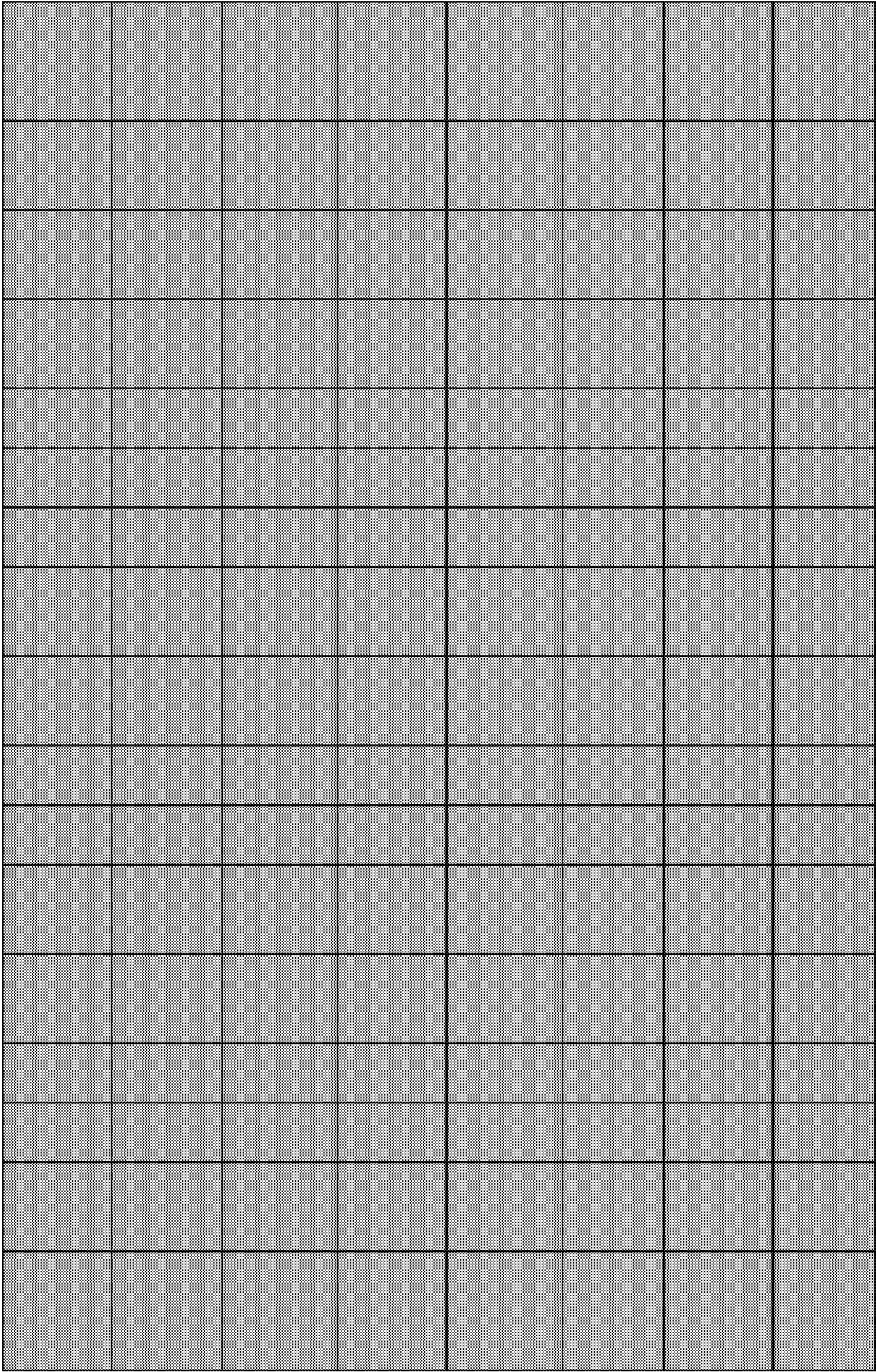
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The charge-transfer spectra of N,N'-dimethyl-4,4'-bipyridylium chloride (paraquat, PQ2+) with a wide range of electron
In the absence of PSII, non-photochemical reduction of plastoquinones (PQs) occurs following NADH or NADPH addition
In seedlings of the tropical tree species <i>Erythrina variegata</i> Lam. exposed to different acidic mist (H ₂ SO ₄ , pH 5.6, 4.0 and
Changes in chlorophyll levels, in photosynthetic rates, and in photochemical reactions were studied in peanut plants infe
Rate constants for the reaction of benzotriazole (BTZ) with the primary species of water radiolysis (e.g. eaq ⁻ , OH, H and O
Polymerized NAD ⁺ (Alg-NAD ⁺) was prepared and its electrochemical properties were investigated. NAD ⁺ has been coval
Inhibition of electron flow from water to methyl viologen by 2,5-dibromo-3-methyl-6-isopropyl-p-benzoquinone (DBMIB
Duroquinol (tetramethyl-p-hydroquinone) served as an excellent electron donor to Photosystem I and promoted methyl
The assimilatory NADPH-nitrate reductase (NADPH:nitrate oxidoreductase, EC 1.6.6.3) from <i>Neurospora crassa</i> is compet
Cadmium and lead metals deposited on CdS particles are shown to act as substrates
In this work we have studied the influence of lime-induced iron deficiency on some features of the thylakoids from peach
Heterocyst preparations have been obtained which actively perform nitrogen fixation (C ₂ H ₂ reduction) and contain the e
A dissimilatory nitrate reductase (cytochrome: nitrate oxidoreductase, EC 1.9.6.1) has been purified 35-fold from submer
Reduction of cytochrome aa ₃ in proteoliposomes with ascorbate plus cytochrome c confirms that not more than 55% of t
Changes in local chlorophyll (Chl) content in photoautotrophic hairy roots of pak-bung (<i>Ipomoea aquatica</i>) were evaluate
Orthogonal collocation was used to obtain an efficient iterative solution to the problem of the second-order EC-catalytic

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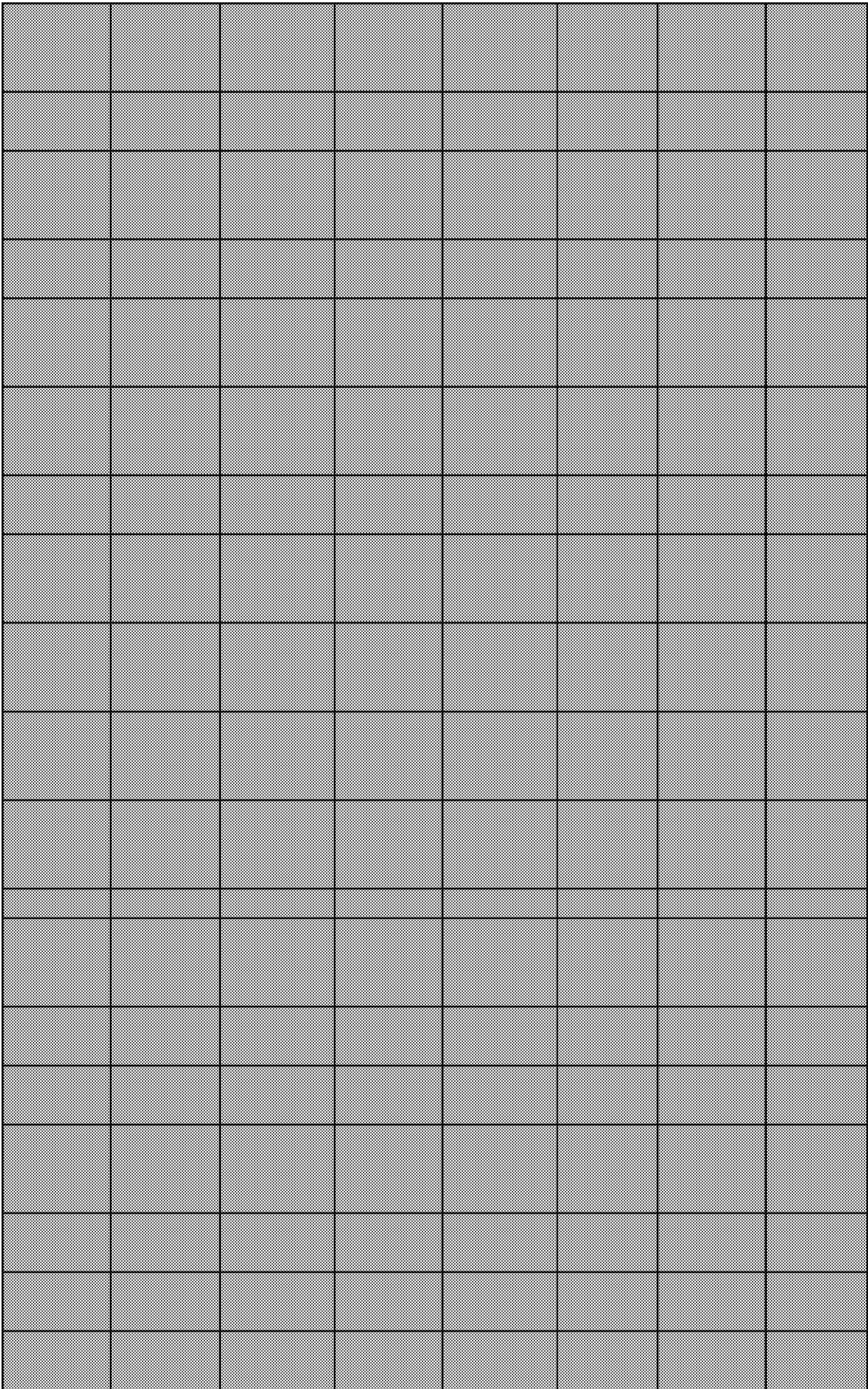
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In this work, azide-funtionalised CdSe/ZnS QDs are conjugated with tetrakis(5-hexyn-oxy) Fe(II) phthalocyanine for the el
Widely used artificial electron acceptors, including dichlorophenol-indophenol, methylene blue, and phenazine ethosulfa
Color development of polymer films containing methyl viologen (MV2+) as an electron acceptor by gamma- or electron-k
Putrescine uptake in type II pneumocytes is a carrier-mediated active process. Our hypothesis was that oligoamines migh
Summary NADH-nitrate reductase (EC 1.6.6.1) was purified 4260-fold from leaves of 2-row barley (<i>Hordeum vulgare</i> L.).
The mode of actio of aromatic hydrocarbon and dicarboximide fungicides has been the subject of many studies which ha
The temperature dependence of a previously developed glucose fuel cell is explored. This cell uses a small molecule dye
The influence of 17 putrescine analogues on the uptake of putrescine and/or paraquat by rat lung slices has been determ
<i>Neurospora crassa</i> wild type STA4 NADPH-nitrate reductase (NADPH : nitrate oxidoreductase, EC 1.6.6.3) has been purifi
On treating the blue-green alga <i>Anacystis nidulans</i> with dimethylsuberimide up to 70% of the free NH ₂ of the photosyn
Summary The photosynthetic electron transport across either photosystem I, or photosystem II, of isolated chloroplasts i
Summary In the unicellular <i>Anacystis nidulans</i> , the expression of both the H ₂ -uptake (with phenazine methosulfate or m
The photochemical hydrogen production was achieved by integrating photoactive components in a polymer membrane f
Treatment of pea chloroplasts with a low molecular weight (1000
Summary The hydrogenase activities of the heterocystous cyanobacteria <i>Anabaena cylindrica</i> and <i>Mastigocladus laminos</i>
A new family of Ru(II) polypyridyl complexes (C1 to C6) containing furyl- or thienyl-imidazo-phenanthroline ligands (4
A novel photoactive complex, [Ru-LH] ₂ ⁺ , comprising a ruthenium bisbipyridyl centre coordinated to 2-(4-adamantylphen
1. The oxyhydrogen reaction of <i>Anacystis nidulans</i> was studied manometrically and polarographically in whole cells and i
Palmitoleic acid (16:1 ⁿ 9), a monounsaturated fatty acid, is found to inhibit electron transport. Inhibition occurs rapidly (v

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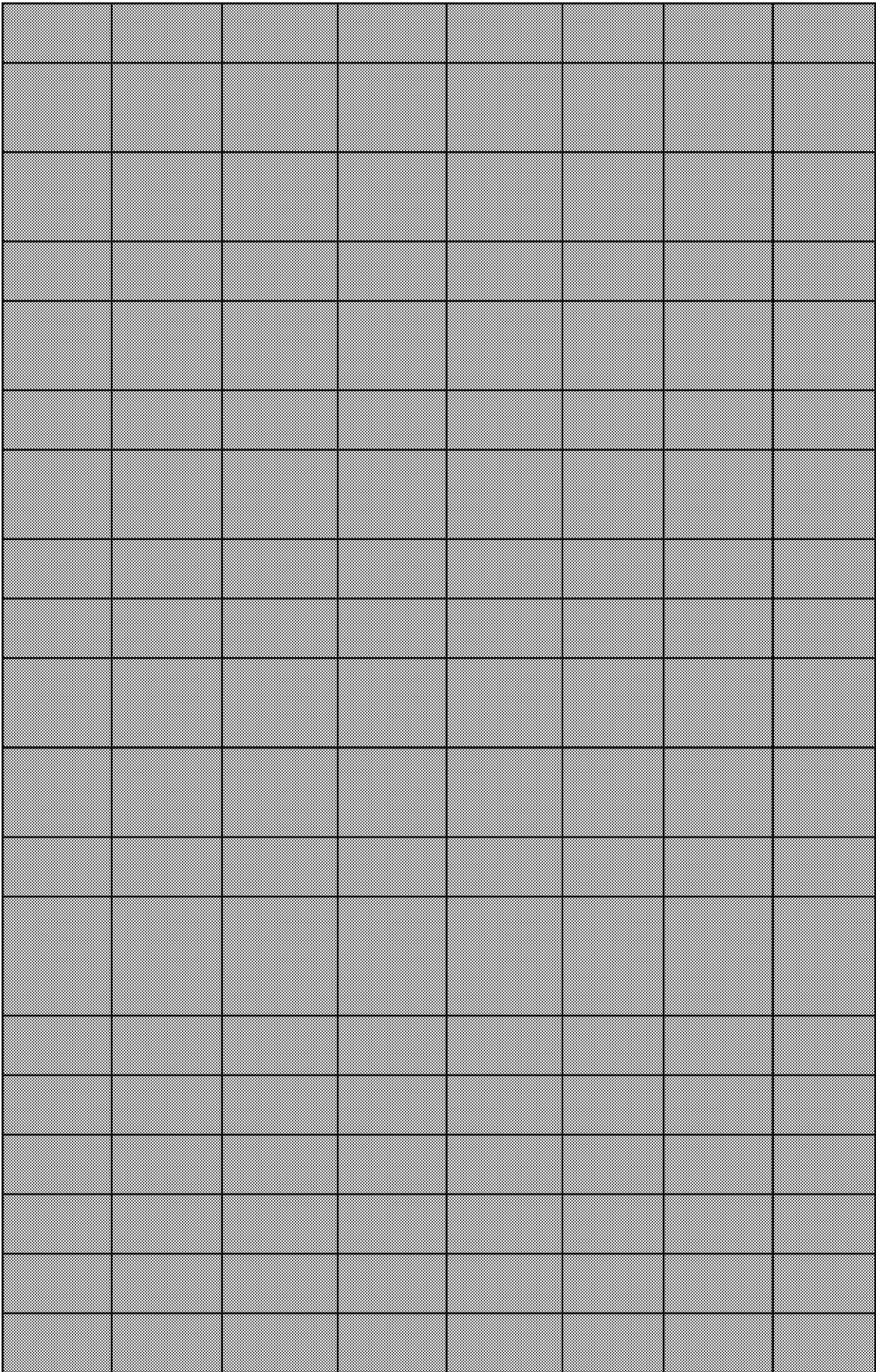
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Five electron were compared for their effects on respiration and nitrogenase activity in <i>Azotobacter vinelandii</i> . Metronid
Summary The amount and the redox status of pyridine nucleotides as well as O ₂ gas exchange and delayed fluorescence
The nitrogen-fixing, aerobic hydrogen-oxidizing bacterium <i>Alcaligenes latus</i> forms hydrogenase when growing lithoautot
Summary During de novo fatty acid synthesis in sunflower seeds, saturated fatty acid production is influenced by the con
The charge-transfer complex of dibenzo-24-crown-8 and methyl viologen (reported by Posp
Huge quantities of pesticides are dispersed in the environment, affecting non-target organisms. Since paraquat affects th
The oxidation-reduction midpoint potentials (E _m) of the following compounds have been measured in the range of pH fr
The chemical modification reagents iodoacetic acid (primarily sulfhydryl group directed) and acetic anhydride (primarily
A nitrite reductase from extracts of actively denitrifying <i>Pseudomonas denitrificans</i> (A.T.C.C. 13867) was purified 160-fol
Pyruvate:ferredoxin oxidoreductase, partially purified from extracts of <i>Clostridium acidurici</i> , catalyzes the oxidation and
This research investigated the SO ₂ -induced effects on photosynthetic apparatus in two barley (<i>Hordeum vulgare</i> L.) cultiv
Ferric cytochrome c peroxidase (CCP) undergoes a ligation-state transition from a pentacoordinate, high-spin (5c/hs) her
The distribution properties of haematoporphyrin (HP) and protoporphyrin (PP) (concentration range 0.5
Unilamellar liposomes of dipalmitoylphosphatidylcholine (DPPC) have been choosen as suitable models of cell membran
Orellanine, a toxic principle of <i>Cortinarius orellanus</i> Fr., efficiently inhibited the photosynthetic activity of duckweed, <i>Le</i>
Summary A treatment of leaves of <i>Spinacia oleracea</i> L. with light or with the thiol reagent dithiothreitol in the dark led to
In dimethylsulfoxide reductase of <i>Rhodobacter capsulatus</i> tryptophan-116 forms a hydrogen bond with a single oxo ligar
<i>Synergistes jonesii</i> is a rumen bacterium that degrades toxic pyridinediols from <i>Leucaena leucocephala</i> . This work preser
The assimilatory nitrate-reducing system of the yeast <i>Torulopsis nitratophila</i> has been characterized. Nitrate is reduced t

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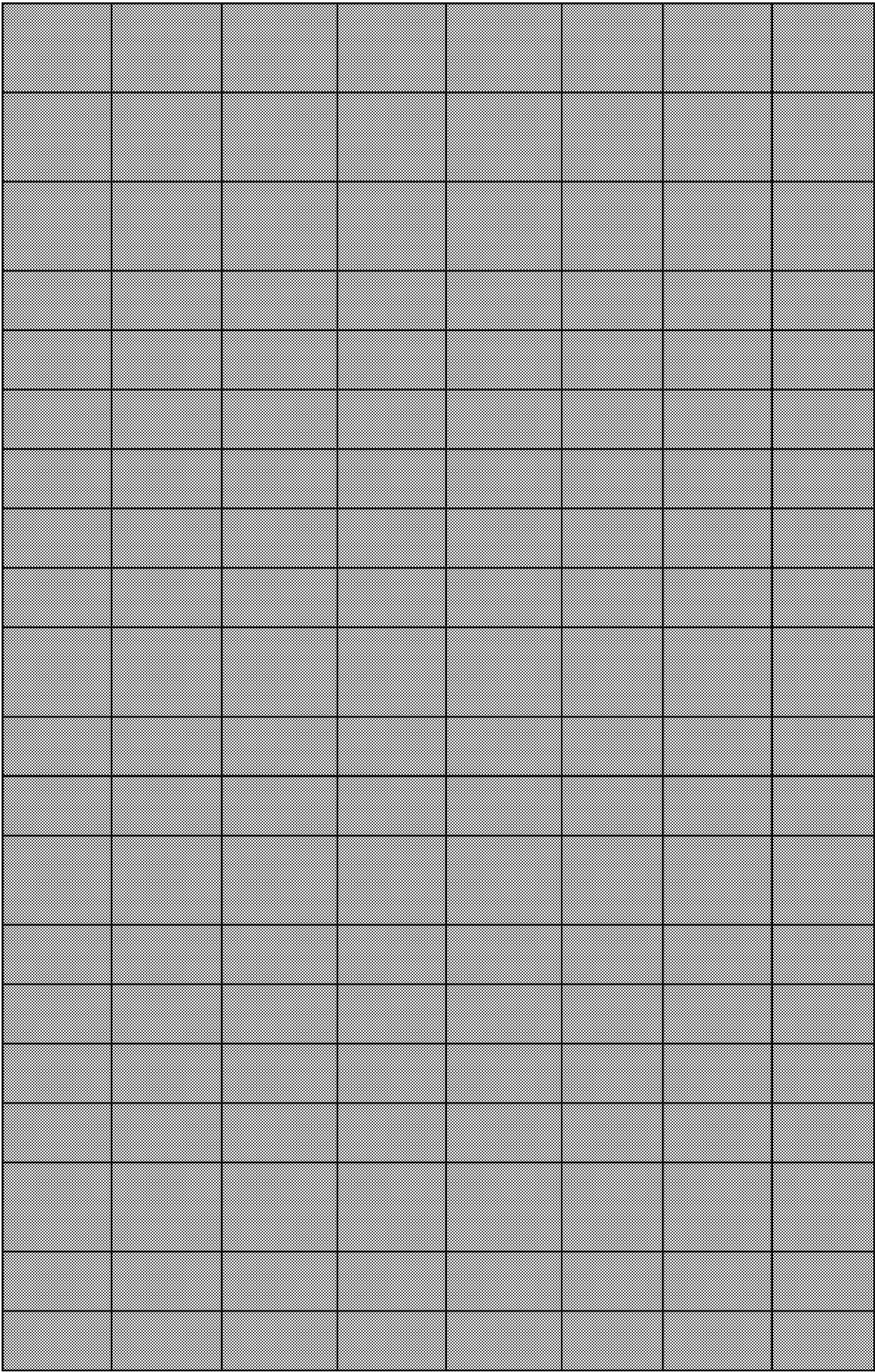
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The extraction of induced oleoresin from <i>Pinus elliottii</i> through bark streaking supplies products to the food, pharmaceutical
The ferrocene/ferricinium couple (FC ⁺ /O) in Nafion films on electrodes behaves in a manner different from that found with
Summary Characterization of the photosynthetic electron transport in a mutant of <i>Spirulina platensis</i> , generated by chemical
The mechanism of distribution of absorbed excitation energy between the two photosystems in the presence of nitrite has been
The [4Fe-4S] cluster-containing enzyme dihydroxy-acid dehydratase (DHAD) is susceptible to inactivation by dioxygen and
The reactions of superoxide radical with persistent nitroxide spin-adducts or with stable spin-labels were studied using ESR
Summary Freeze-thaw treatment of isolated spinach thylakoid membranes in buffered media containing Cl ⁻ , NO ₃ ⁻ , K ⁺ , Na ⁺
Fenton's reaction, an advanced oxidation process (AOP), was studied for paraquat degradation purposes. A parametric study
A systematic study was conducted for in situ synthesis of fine Pb nanoparticles in aqueous gelatin solution and in pre-organized
Paraquat enhanced the NADH-dependent lipid peroxidation of bovine heart submitochondrial particles in the presence of
The inclusion of cysteine and Na-EDTA in the extracting buffer lowered the activity of sulphite reductase extracted from yeast
The soluble hydrogenase (hydrogen: NAD ⁺ oxidoreductase, EC 1.12.1.2) from <i>Alcaligenes eutrophus</i> H 16 was purified 68-fold
Immobilized cells and thylakoid vesicles of the microalga <i>Chlamydomonas reinhardtii</i> CW-15 have been developed as a sensitive
Recently, an inexpensive monosaccharide-air flow battery configuration has been demonstrated to utilize a strong base as
Summary <i>Azotobacter vinelandii</i> hydrogenase has been purified to homogeneity from membranes. The enzyme was solubilized
The results of studies of charge transfer in cyanobacterial photosystem I (PS I) using the photoelectric method are reviewed
Humic acids (HAs) have been isolated according to conventional extraction, fractionation and purification methods from
Light-induced proton translocation coupled to sulfide-dependent electron transport has been studied in isolated thylakoid
Summary This paper explores the effects of high light stress on Fe-deficient plants. Maize (<i>Zea mays</i>) plants were grown
The abiotic reductive dissolution of goethite and hematite by the reduced forms of flavin mononucleotide (FMN ^{H2}) and

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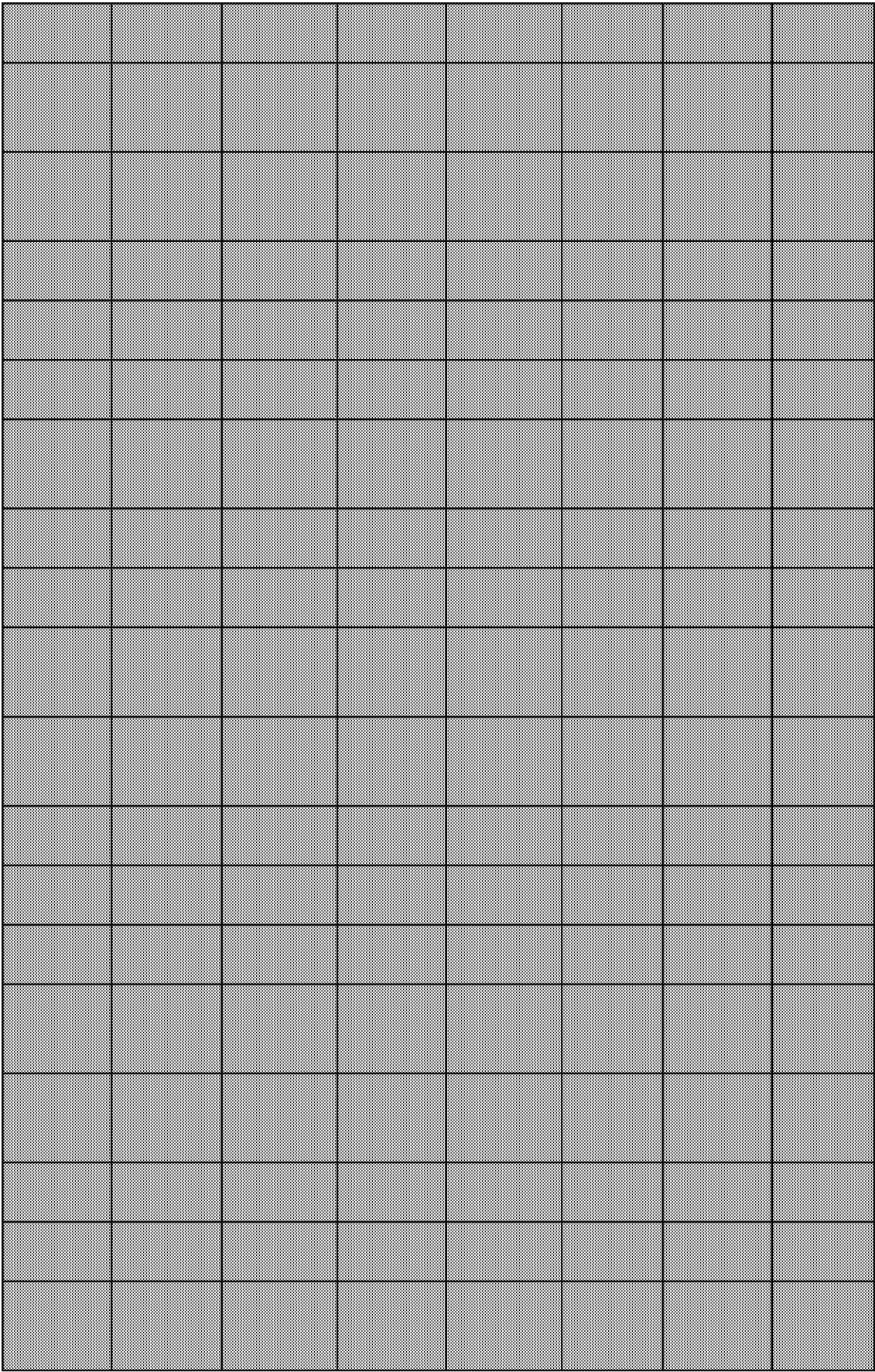
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Summary Photosynthetic electron transport measurements and related analyses were carried out on spheroplasts and m
Electron paramagnetic resonance (EPR) spin trapping spectroscopy is an important method used in free radical research;
The reasons of unusually large differences observed in photocurrent efficiencies for the oxidation of various organic and
Pure rat liver heavy mitochondrial fractions, in which the absence of significant microsomal contamination was confirme
The interaction between humic substances and pesticides in solution has been investigated using the fluorescence spectr
Protein A, one of the catalytic components of the glycine reductase system of <i>Clostridium sticklandii</i> and related amino a
An improved spectroelectrochemical cell has been developed in which both coulometric and potentiometric titrations of
Liver microsomes from control and phenobarbital-induced (PB) mice have been used to study the effect of paraquat (PQ)
The assimilatory NADPH-nitrate oxidoreductase (EC 1.6.6.3) from <i>Aspergillus nidulans</i> was purified by means of affinity c
The highly hydrophobic complex tris-(4,4'-di-tridecyl-2,2'-bipyridyl)
Carcinogenic N-nitrosomethylaniline is oxidized in vitro by horseradish peroxidase in the presence of H ₂ O ₂ to ultimate c
Summary Chloroplasts from pea leaves (<i>Pisum sativum</i> L.) were isolated to study the influence of activated oxygen speci
The photochemistry of two aqueous colloids of iron oxides (hematite and amorphous), have been investigated by laser fl
The paper reports a highly sensitive electrochemical immunosensor for the detection of paraquat. The immunosensor ba
Photosynthetic O ₂ evolution in the green alga, <i>Scenedesmus obliquus</i> , was shown to be more sensitive to the uncoupler
For the first time, we announce the synthesis of cyclo(bis-paraquat-p-phenylene-p-phenylene-carbonyl)tetrakis(hexafluor
Micromolar concentrations of nonchelated ferrous sulfate catalyze a reaction between H ₂ O ₂ and radiolytically generated
Traces of iron, when complexed with either EDTA or diethylenetriaminepentaacetic acid (DTPA), catalyze an OH \cdot -producti

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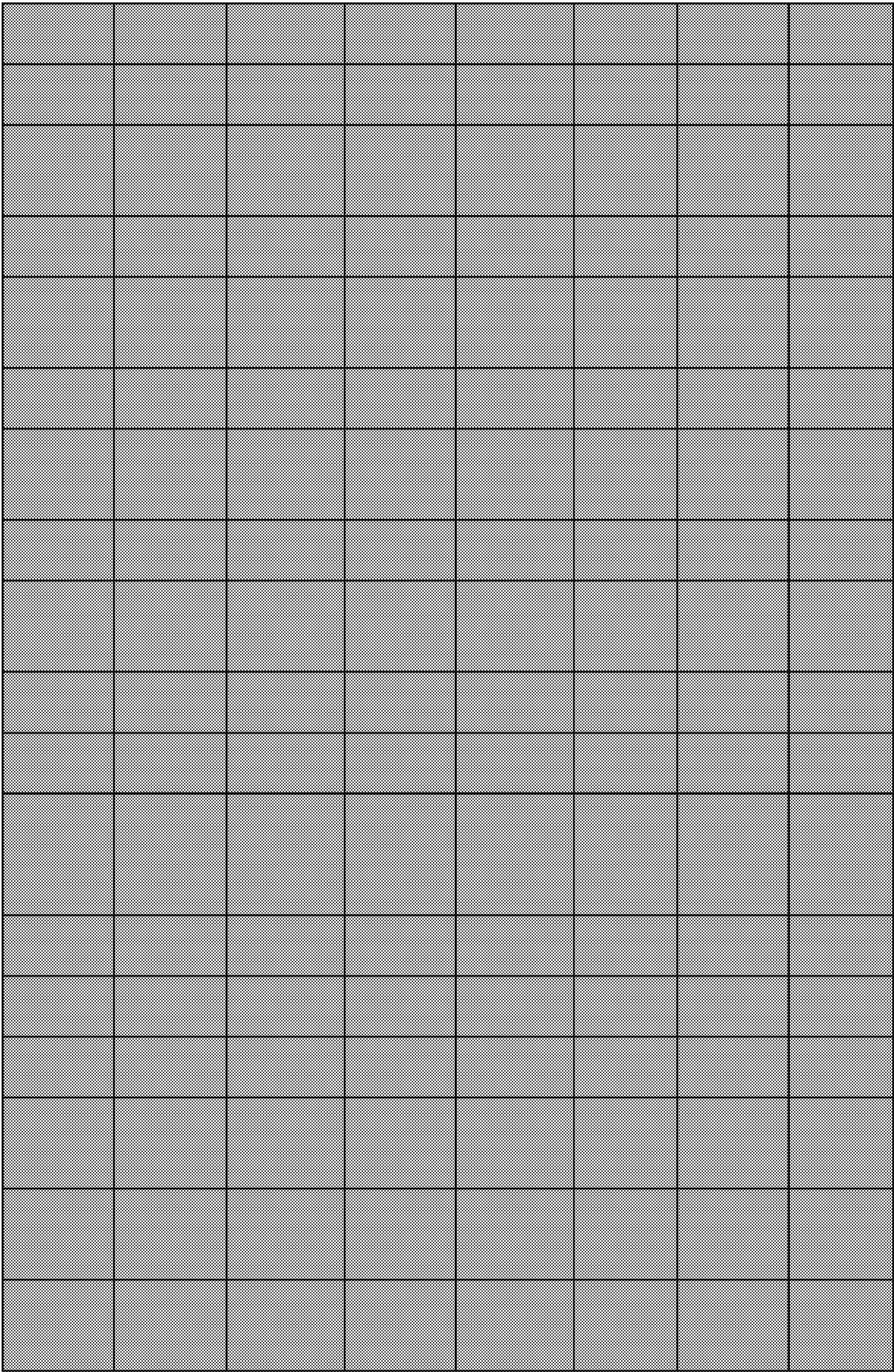
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Summary Photoacoustic spectra of control leaves and herbicide-treated bean leaves (<i>Phaseolus vulgaris</i> L. cv. Fori GS) were
New CCC-pincer N-heterocyclic carbene Pt(II) complex, [Pt(TMPCCC)Cl] (1) (TMPCCC = 1,1'-(1,3-phenylene)bis(3-(2,4,6-tri
Superoxide production from paraquat in a pulmonary microvascular endothelial cell (PMEC) suspension was demonstrated
A particulate nitrate reductase system which included cyt. b1 as an intermediary carrier from formate or DPNH to nitrate
The potential toxicity of the herbicide paraquat (1,1-dimethyl-4,4'-bipyridylium dichloride) was tested in bioenergetic fur
The present study provides the first evidence for in vitro metabolic conversion of a 1,1-disubstituted hydrazine to the cor
Fluorescent pH and Ca^{2+} indicators have been screened for the non-invasive monitoring of bioenergetic processes in whole
Summary This study provides a comparative account of the effects of cadmium, temperature, ultraviolet-B and sodium chloride
d-1,2-Bis(3,5-dioxopiperazine-1-yl)propane (ICRF-187) (ADR-529) is a drug that ameliorates the cardiotoxicity of Adriamycin
Exposure of chloroplasts to pH \leq 4.5, or incubation in the presence of phospholipase A2, leads to membrane lipid phase
A highly active cytochrome c nitrite reductase from the haloalkaliphilic sulfur-oxidizing non-ammonifying bacterium <i>T. r</i>
In the present study, the activated bleaching earth was used as adsorbent for the herbicide paraquat adsorption in a batch
Rifamycin SV is an antibiotic anti-bacterial agent used in the treatment of tuberculosis. This drug can autoxidize, especially
Hydrogenase from the marine green alga, <i>Chlorococcum littorale</i> , was purified 1485-fold, resulting in a specific activity for
Irradiation with white light of spinach leaf nitrate reductase (NR) in the presence of flavin mononucleotide (FMN) and eth
The PsaC subunit of photosystem I (PS I) binds two [4Fe-4S] clusters, FA and FB, functioning as electron carriers between
Pulse and continuous radiolysis have been used to investigate the stability of the reduced methyl viologen radical cation

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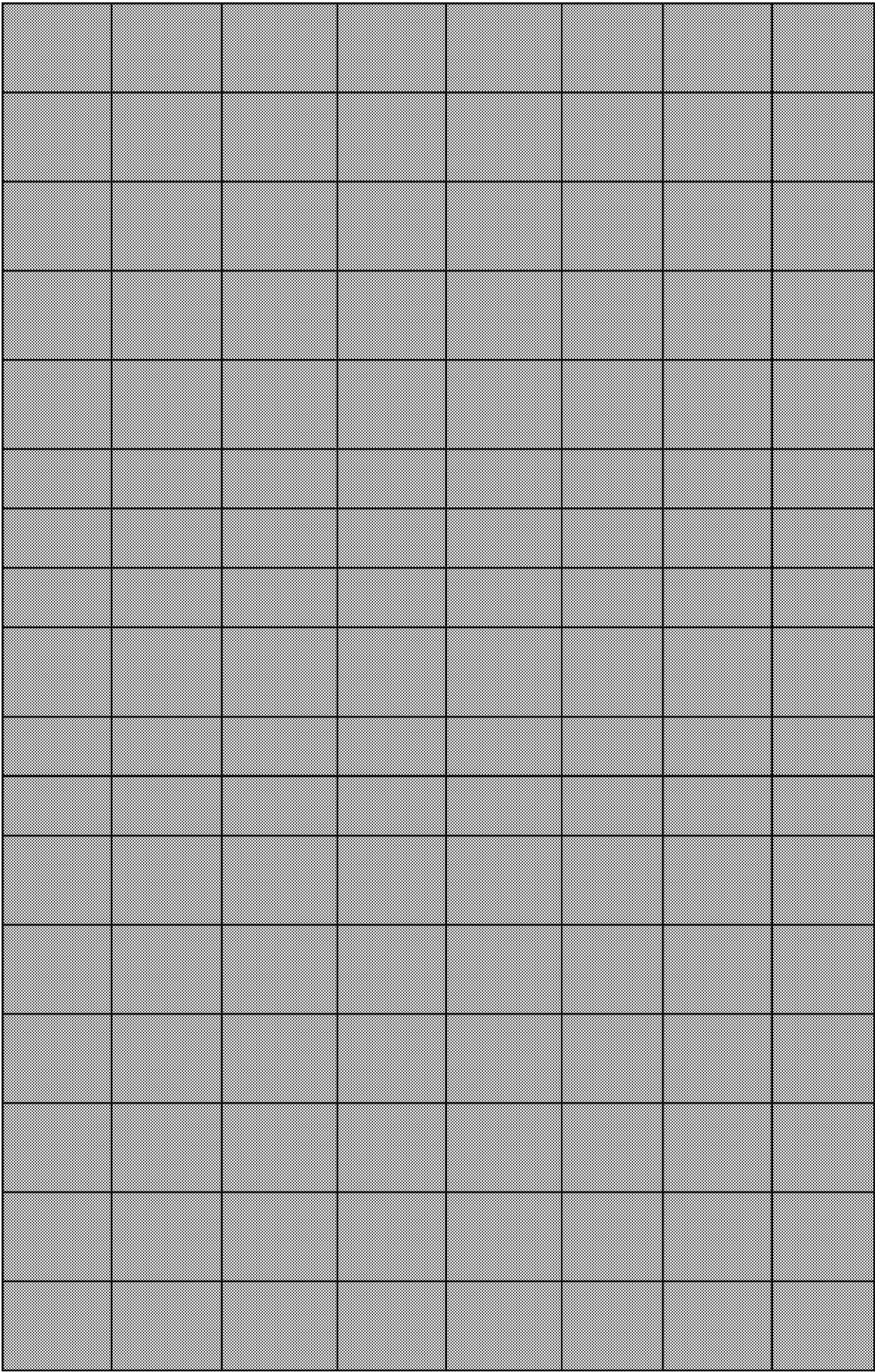
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The hyperthermophilic bacterium, <i>Thermotoga maritima</i> , grows up to 90
Mild hydrogenation (up to 20%) of cis double bonds of acyl lipids within thylakoid membranes results in a marked increa
The hydrogen
Using paraquat, adriamycin, and anthraquinone 6-sulfonate, we have investigated the ability of radical-driven Fenton rea
Reduction of iron is important in promoting xenobiotic-enhanced, microsomal lipid peroxidation, yet there is little eviden
The pH 7.0 solutions of Methyl Viologen dichloride (MV), tris (2,2'-bipyridyl) ruthenium (II) dichloride ($\text{Ru}(\text{bpy})_2\text{+3Cl}_2$) an
Methyl viologen (MV^{++}) is incorporated into a zeolite modified carbon paste electrode (ZMCPE). The electrochemical bel
A high efficient homogeneous system for hydrogen production from water consisting of Eosin Y as a photosensitizer, met
Oxygenic photosynthesis in cyanobacteria, algae, and plants requires photosystem II (PSII) to extract electrons from H_2O
Multilayers composed of zinc porphyrin, (Nafion
The interaction between paraquat (PQ) and bovine hemoglobin (BHb) was investigated using fluorescence and UV/vis ab
Dissimilatory iron-reducing bacteria can utilize insoluble Fe(Mn)-oxides as a terminal electron acceptor under anaerobic
16-Dehydroprogesterone reductase (16-DHPR) activity was present in cell extracts of <i>Eubacterium</i> sp. strain 144 only wh
2,3-Butanedione reacts with the formate dehydrogenase from <i>Clostridium thermoaceticum</i> to inactivate selectively the r
We have investigated the role of cytochrome f and the Rieske FeS protein in spinach chloroplasts using the quinone anal
Summary Oxygen uptake by lysed chloroplasts isolated from etiolated cucumber cotyledons exposed to irradiation for 6
O_2 was produced by ? irradiation of formate solutions, by the action of xanthine oxidase on hypoxanthine and O_2 , and b

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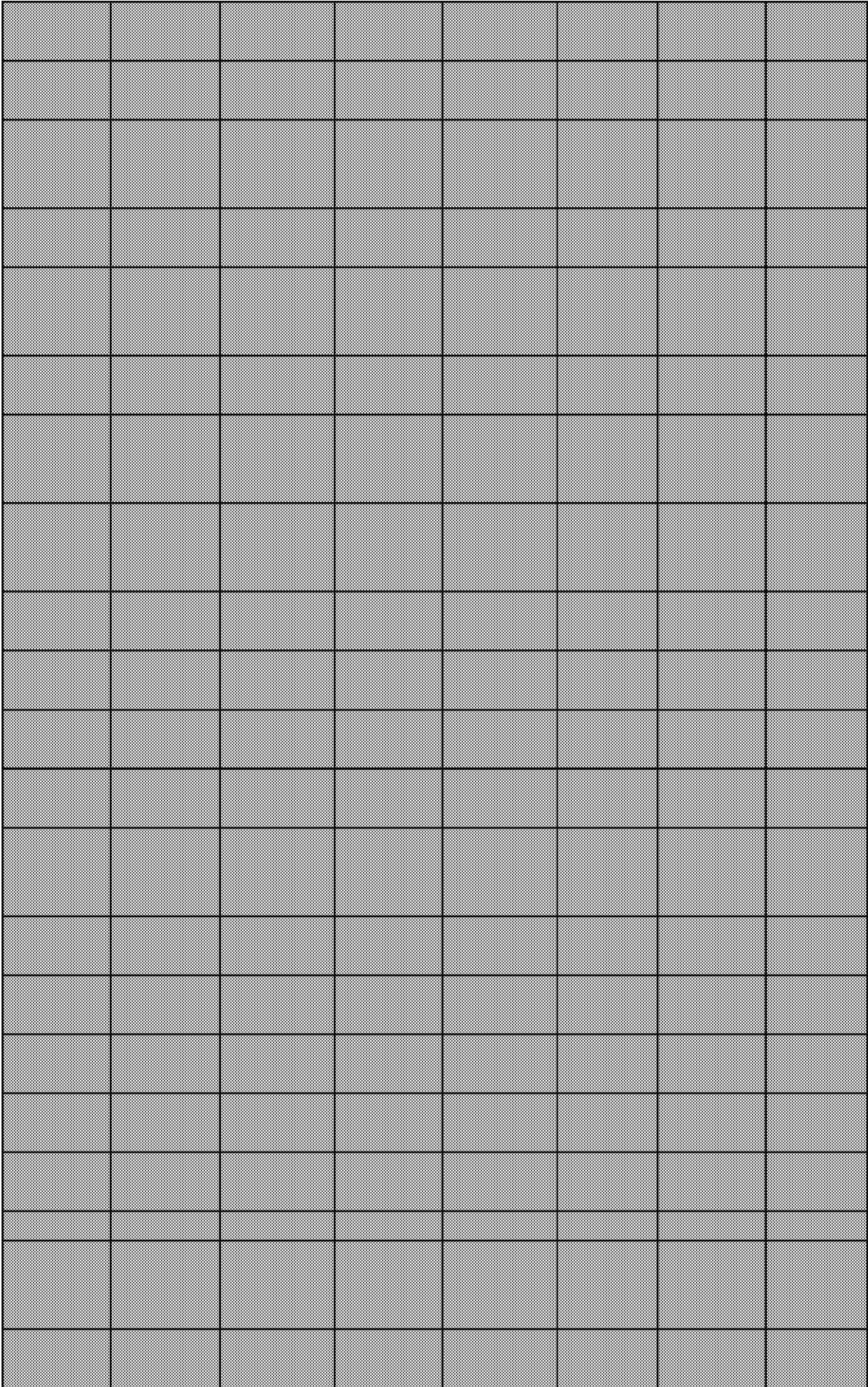
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A photocurrent produced by planar lipid bilayers containing Mg-octaethylporphyrin in the presence of oxygen has been i
The present study was designed to confirm the recent proposal that 2-nitrosofluorene (2-NOF) as well as N-hydroxy-2-an
Reduced
Thirty sequenced microbial hydrogenases are classified into six classes according to sequence homologies, metal content
The phytotoxicities of nine pesticides (paraquat, fluazifop-p-butyl, haloxyfop, flusilazole, cuproxat, cyazofamid, imidaclop
The photophysical and photochemical studies of polynuclear copper(I), silver(I), gold(I), rhenium(I) and platinum(II) acety
Nafion (fluorocarbon polymer) and collodion blended with Nafion in the ratio of CN5:5 composite solutions were used to
In order to get a better understanding regarding the structure of charged film of membranes, two kinds of the composite
Production of cellulosic biofuels has drawn increasing attention. However, currently no microorganism can produce biofu
Quantum confined nanorod heterostructures offer the opportunity to control the energy of electrons and holes by rod di
Paraquat (PQ), a nonselective herbicide, is non-fluorescent in aqueous solutions. Thus, its determination through direct f
The impact of commonly used agrichemicals (Paraquat, Mancozeb, Chlorpyrifos and Sulfur) on the environmental stabilit
Summary Dark-grown <i>Euglena gracilis</i> strain Z were exposed to white light which induces chloroplast development includ
The requirement for a heretofore unidentified chloroplast component for NADP photoreduction by chloroplast fragment
CdS/silica core
1. NADPH-sulfite reductase, catalyzing the reduction of sulfite to sulfide by NADPH, was purified from baker's yeast to an
Summary Oxygen activating - and redox properties of 4-dimethylaminophenol (DMAP), a drug used for the treatment of
Purified ferredoxin-(cytochrome c)-NADP+ oxidoreductase and xanthine oxidase were found to catalyse the reduction of
The well-known bactericidal agent, nitrofurantoin (NF), has been in widespread use for more than a quarter of a century,
Two amphiphilic porphyrins terminated with carboxyl were studied in AOT/iso-octane/water reverse micelles, intending
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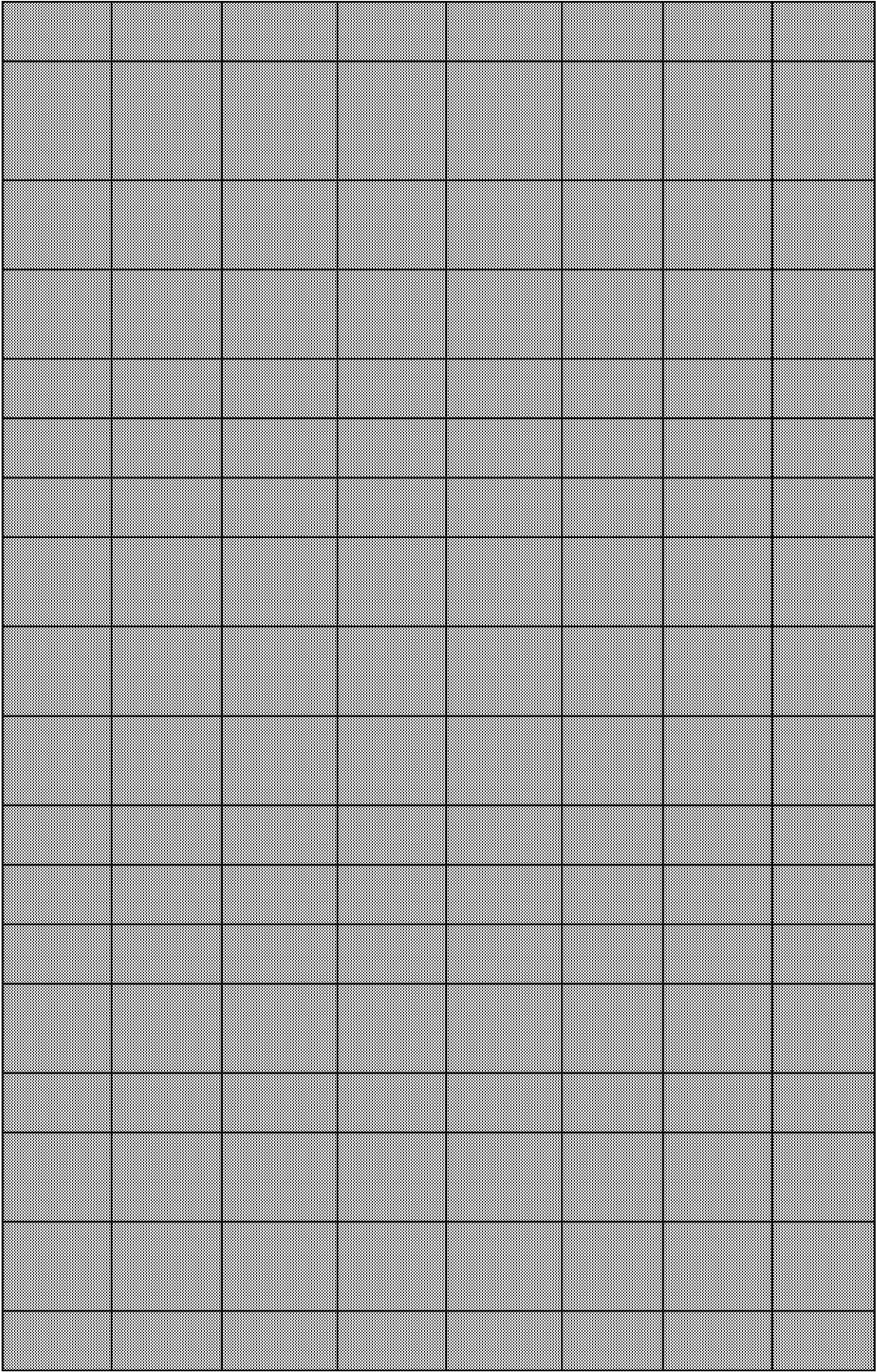
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The interaction between herbicide paraquat and human serum albumin (HSA) was investigated by fluorescence and UV/
The composite polymer, poly(N-methylpyrrole)/poly(styrenesulfonate) (PMP+ PSS?), was synthesized by anodic polymer
The electrochemical reduction of cobalt (III) complexes containing the neurotransmitter GABA or GLU as ligands were inv
When compared with Photosystem I (PSI) in wild-type (WT) rice plants, PSI in PsbS-knockout (KO) plants that lack the ene
The terminal oxidoreductase of nitrous oxide respiration in the marine, denitrifying bacterium, <i>Pseudomonas perfectom</i>
The effect of the bipyridyl herbicides, paraquat and diquat (0.01
The effects of different photooxidative stresses on the function of photosystem I were measured in vivo in <i>Chlamydomon</i>
Highly transient (benzpinacol) cation radicals (D-2(+)) and their ultrafast mesolytic fragmentations to the diarylhydroxym
Electron transport in a paraquat-resistant (R) biotype of <i>Solanum americanum</i> Mill. (American black nightshade), when n
Leaves of high-mountain plants were highly resistant to photoinhibitory damage at low temperature. The roles of differe
We describe the construction and characterization of an ultrathin-film composite membrane (UTFCM) prepared by elect
Most pathological processes include the production of activated oxygen species augmented or attenuated by transition r
A novel [2]catenane 1 incorporating 2,2'-bipyridine and cyclobis-(paraquat-p-phenylene) (BXV4+) was synthesized by self
Siderophores are low molecular mass compounds used by many microorganisms to scavenge dissolved iron, which is typ
We report the synthesis of six new dendrimers built around a [Ru(bpy)(3)](2+)-type core (bpy = 2,2'-bipyridine) and beari
A three-dimensional conductive superstructure of 12 +/- 1 nm Au-nanoparticles was built up on a conductive (indium-do
The electrochemical oxidation of dopamine, 4-methylcatechol, dihydroxyphenylacetic acid, dihydroxyphenyl ethylene gly

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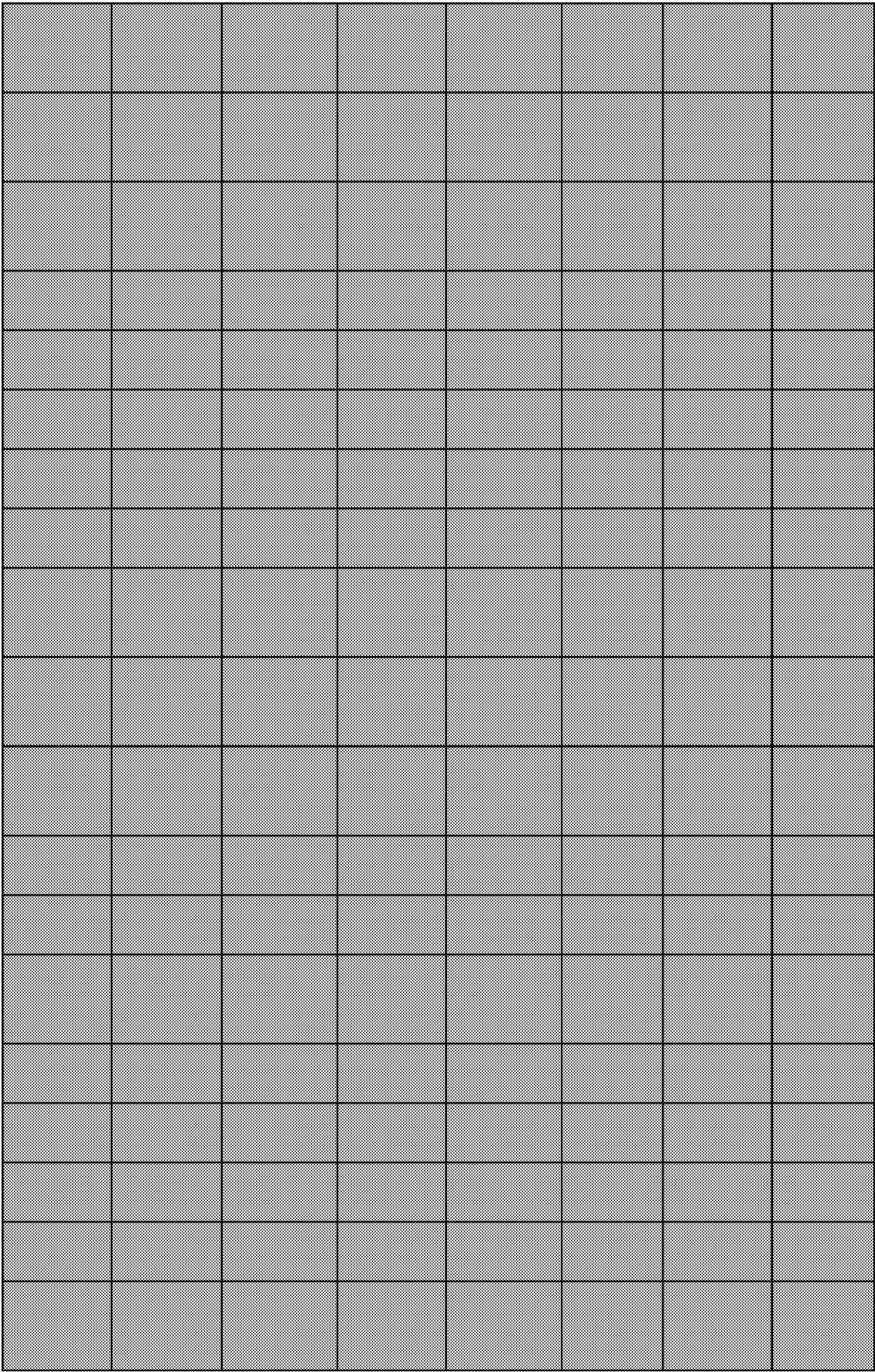
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We have recently shown that the chloroplast small heat-shock protein (chpsHsp) protects oxygen evolution and electron
A film consisting of polyethyleneimine (PEI), Au-nanoparticles (12 +/- 1 nm) and coadsorbed cyclobis(paraquat-p-phenyle
Artificial photosynthetic reaction centers have been constructed on a protein surface by cofactor reconstitution, which m
Vinclozolin is a dicarboximide fungicide and has been used mainly in the control of diseases caused by <i>Botrytis cinerea</i> an
The interaction of three common herbicides, paraquat, acifluorfen and alachlor, with spinach chloroplast photosystem II
Histidine is a chelator of zinc, most notably in zinc-finger proteins (zinc coordinated by cysteine and histidine) and in hype
Our microtiter plate assay is based on the enzymatic reduction of nitrate by dissimilatory nitrate reductase from <i>Pseudor</i>
[GRAPHICS] The template-directed synthesis of a [2]rotaxane, in which a pi -electron deficient ring component-cyclobis(p
Ferredoxin-glutamate synthase (Fd-GOGAT; E.C. 1.4.7.1) from barley undergoes a spontaneous proteolytic cleavage in cr
Chloroplasts in bundle sheath cells (BSC) of maize perform photosystem I (PSI)-mediated production of ATP. In this study
A purification procedure for flavohaemoglobin Hmp (NO oxygenase) is described that gives high yields of protein with eq
The chemistry of the two-electron reduction product of viologen (1,1'-dialkyl-4,4'-bipyridinium, V2+.) neutral species, is i
NADPH is an intermediate in the oxidation of organic compounds coupled to Fe(III) reduction in <i>Geobacter</i> species, but F
We report the preparation and characterization of viologen-functionalized generation 2, 4, and 6 poly(amidoamine) (PAM
The photophysical properties of a few aromatic molecules incorporated into the straight channels of zeolite L were inves
Studies of the biological efficiency of the antioxidant alpha -tocopherol against oxidative stress were performed under co
An electrode chemically modified by the amino group (Polyaminoaniline. PAA) was prepared and the immobilization of t
Oxidative stress within chloroplasts is originated due to light-dependent O-2 reduction. This may be exacerbated by bipy
Nitrite reductase (NR EC 1.7.7.1) from the eukaryotic microalga <i>Monoraphidium braunii</i> has been purified to electrophor

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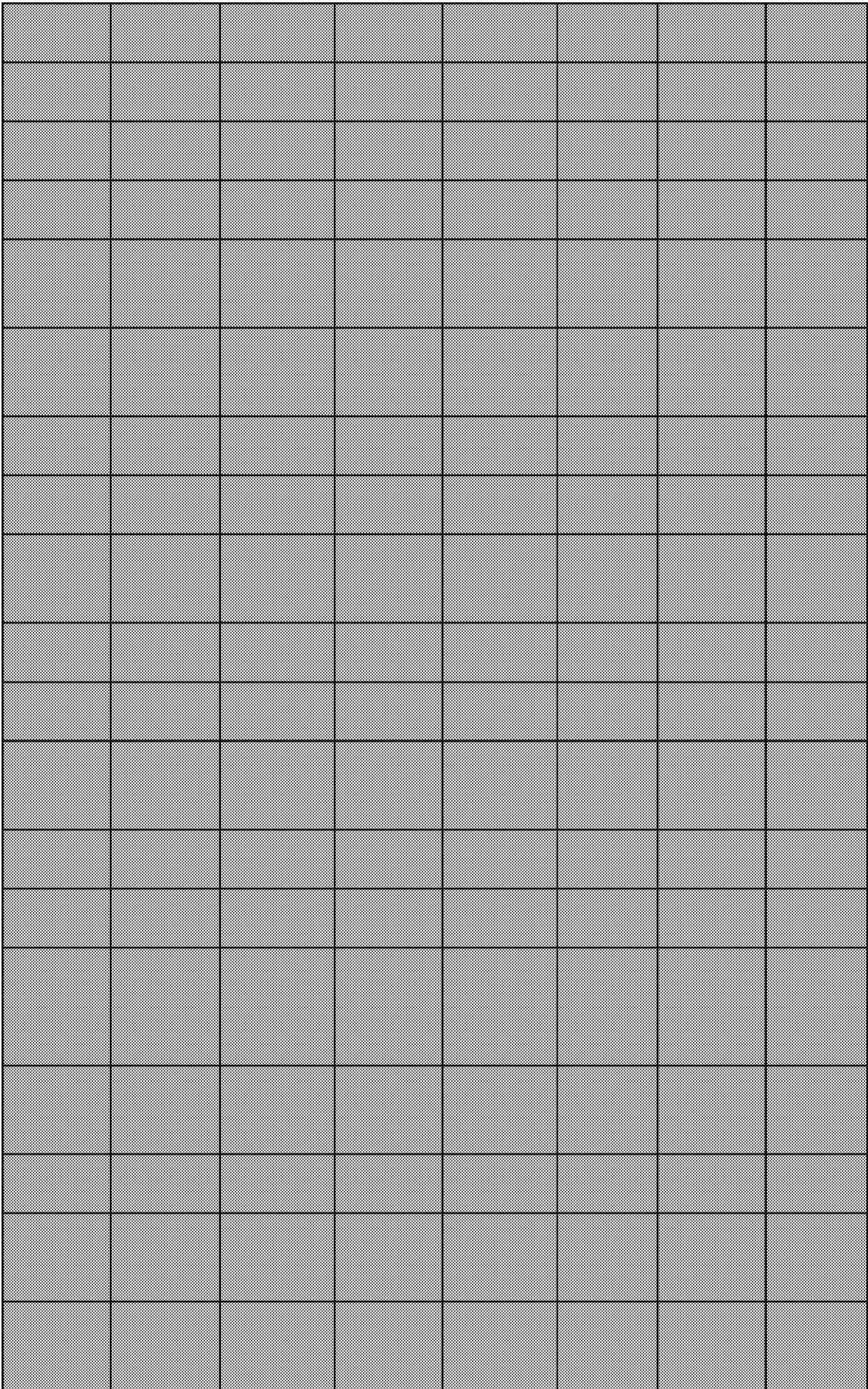
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B3LYP/6-31+g(d) calculations were performed on the hydrogen bonded complexes between substituted phenolates and
The reactions of e(aq)(-) with 3-substituted indole derivatives and their 5-hydroxy analogues viz., tryptamine, and 5-hydroxy
Methyl viologen (N,N'-dimethyl-4,4'-bipyridine, abbreviated MV ²⁺) is widely used in light-driven molecular devices, where
A series of porphyrins, strapped with aryloxy-substituted polyether chains of various lengths and different substitution patterns
The classical view of the aerobic decomposition of Angeli's salt is that it releases NO ₂ ⁻ + NO/HNO the latter then reacting with
infiltration of methyl viologen (MV, source of O ₂ ⁻ (-)) and Na-diethyldithiocarbamate (DDC, inhibitor of SOD) into wheat leaves
The effects of dicamba, a widely used broad-leaf herbicide, on rat liver mitochondrial bioenergetic activities were examined
Two molecular shuttles/ switches-a slow one and a fast one-in the shape of amphiphilic, bistable [2]rotaxanes have been
Supramolecular formations of antibodies by their specific molecular recognition to antigens are investigated. Linear and
Oxidation of the methyl viologen radical, MV. ⁺ , by the peroxynitrite anion, ONOO ⁻ , occurs through an indirect pathway, via
The addition of nitrite, the product of the reaction catalysed by nitrate reductase, to cell suspensions of the yeast Hansenula
A method for the numerical assessment of the foliar injury caused by the photochemical oxidant, peroxyacetyl nitrate (PAN), is
The ferredoxin-dependent nitrate reductase from the cyanobacterium Synechococcus sp. PCC 7942 has been shown to function
Density function theory UB3LYP/6-31 + g(d) calculations were performed to study the hydrogen bonds between para-substituted
The title compounds were synthesized by Sonogashira coupling reactions of appropriate Ru(II) complexes with the electrophilic
The fragmentation patterns of a series of dispiracyclopiperazinium dibromides with strong analgesic activity by positive ion
An amplification method of the detection signals for a target molecule has been devised by using the signal enhancement
Photoinactivation of photosystem 2 (PS2) results from absorption of so-called "excessive" photon energy. Chlorophyll a fluorescence
Dissimilatory nitrite reductase catalyses the reduction of nitrite to nitric oxide within the key biological process of denitrification

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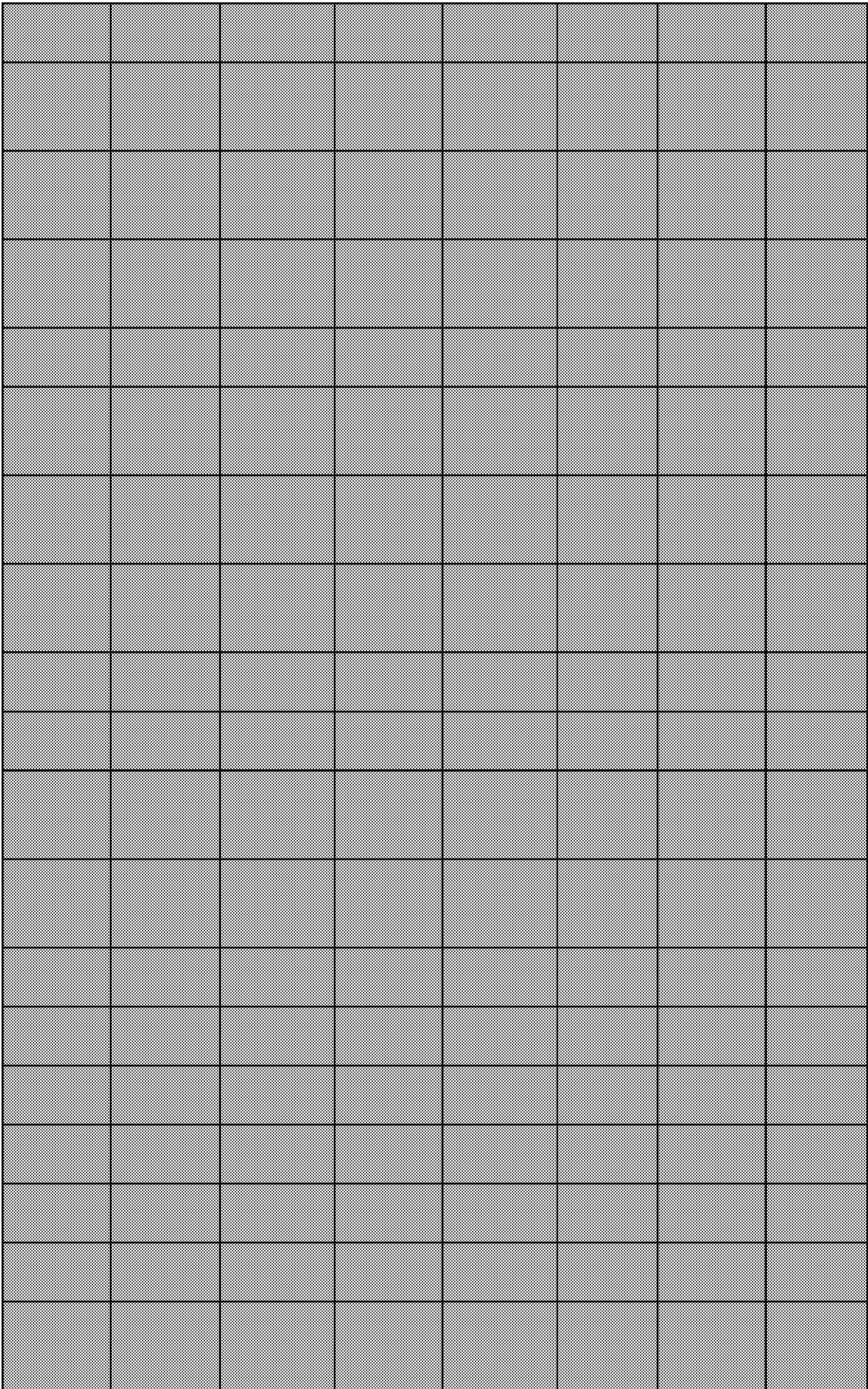
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In response to molecular electroactive device requirements, a molecular shuttle in the shape of an amphiphilic bistable [
Changes in the extent of P700 oxidation (P700(+)) were investigated after chilling of barley, rice, pumpkin, and cucumber
Under various photo-oxidative conditions in the presence of methyl viologen (MV), diethyldithiocarbamic acid (DDC, a su
NADPH-cytochrome P-450 reductase (P-450 reductase) plays a crucial role in the metabolism of many endogenic compou
Reversible cyclic voltammetry of recombinant rat outer membrane (OM) cytochrome b5 was observed at a gold electrode
The ferredoxin-dependent sulfite reductase from maize was treated, in separate experiments, with three different covalent
It was found that a cylindrical macrotricyclic host containing two dibenzo[24]crown-8 cavities could self-assemble with tv
We conducted a series of experiments to assess the effects of oxidative stress on chlorophyll biosynthesis in the vascular
Our results indicate that 200 mM NaCl, 0.2 mu M methyl viologen, 4 mM arsenite or 300 mu M of cadmium in the culture
We present the photophysical properties of complexes of recombinant human serum albumin (rHSA) with Zn(II)-protopo
A flavohaemoprotein (HIP) from <i>Ralstonia eutropha</i> , obtained in a pure and active form, has been entrapped in a film of
Glycerol can be oxidized to formaldehyde by microsomes in a reaction that is dependent on cytochrome P-450. An oxidat
The toxicity of redox cycling compounds which generate the formation of active oxygen species is commonly accepted to
L Sulfortated OTiPc(S)(n) and (Cl(3))Tapc(S)(n) complexes are prepared and characterised by spectroscopic methods in DM
The recent literature on photoactive interlocked structures containing porphyrins is reviewed. Catenanes and rotaxanes
The mechanism of cytotoxicity by paraquat was studied focusing attention on its effect on the mitochondrial electron tra
A series of dendritic porphyrins 7-9 and 12, in which benzyl ether dendrons were linked to a porphyrin core through 1,2,3
The microstructural, electrical and electrochemical properties of boron-doped (ultra)-nanocrystalline diamond (UNCD) fil

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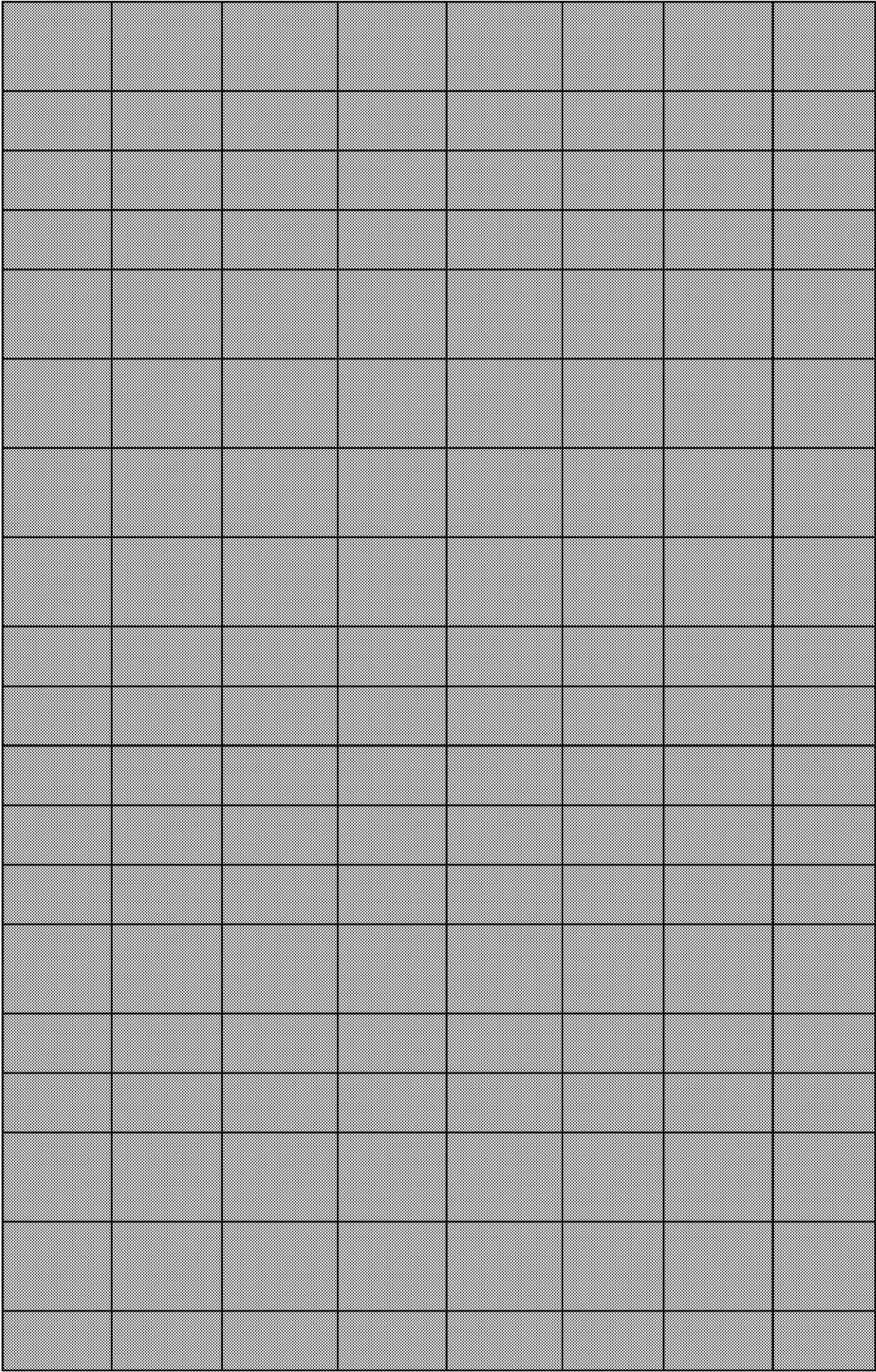
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Structural rigidity has been found to be advantageous for molecules if they are to find applications in functioning molecules
Two rice chlorophyll (Chl) b-less mutants (VG28-1, VG30-5) and the respective wild type (WT) plant (cv. Zhonghua No. 11)
Leaf discs of <i>Alocasia macrorrhiza</i> were treated with various stress factors, including two photo-oxidants, methyl viologen
Methacrylic acid (MAA) grafted rice husk was synthesized using graft copolymerization with Fenton's reagent as the redox
Nitroreductases reduce nitroaromatic compounds and other oxidants in living organisms, having interesting implications
The use of nanotechnology in drug delivery is a rapidly expanding field. Biodegradable or nontoxic nanomaterials have the
<i>Rhodobacter sphaeroides</i> periplasmic nitrate reductase (Rs NapAB) is one of the enzymes whose assays give odd results:
Three 5,5'-disubstituted-2,2'-bipyridine ligands tethered to L-Asp-based peptide backbones having pendant viologen-moieties
The changes in NADPH activity was studied in the roots of 3-4-day-old etiolated pea (cultivar Aksaiskii usaty) seedlings during
A rapid colorimetric methodology based on photoinduced electron transfer from excited CdS quantum dots (CdS QDs) to
Physiological dormancy of scarified seeds of Townsville stylo (<i>Stylosanthes humilis</i> HBK) was released by acidic aluminium
Experiments were carried out using spin-trapping ESR spectroscopy to evaluate in a quantitative and kinetic manner the
Deoxyribonucleic acid (DNA) was electrochemically deposited on a carbon ionic liquid electrode to give a biosensor with
Peroxidase in the presence of hydrogen peroxide catalyzes in vitro the activation of carcinogenic N,N-dimethyl-4-aminoazobenzene
Dormancy of scarified seeds of <i>Stylosanthes humilis</i> was broken by acidic Al(3+) and Fe(3+) solutions. Fe(+3)-stimulated s
Heat shock from 25 degrees C to 40 degrees C of <i>Hansenula anomala</i> cells resulted in a rapid and reversible inactivation of
The porphyrin-incorporated arylether dendrimers ZnP-D1 and ZnP-D4 were investigated to discover the influence of dendritic
Fermentative production of solvents (acetone, butanol, and ethanol) by <i>Clostridium acetobutylicum</i> is generally a biphasic
A viologen derivative, 1,1'-di-p-tolyl-(4,4'-bipyridine)-1,1'-dium dichloride (DTV2+), was studied in solution and encapsulated

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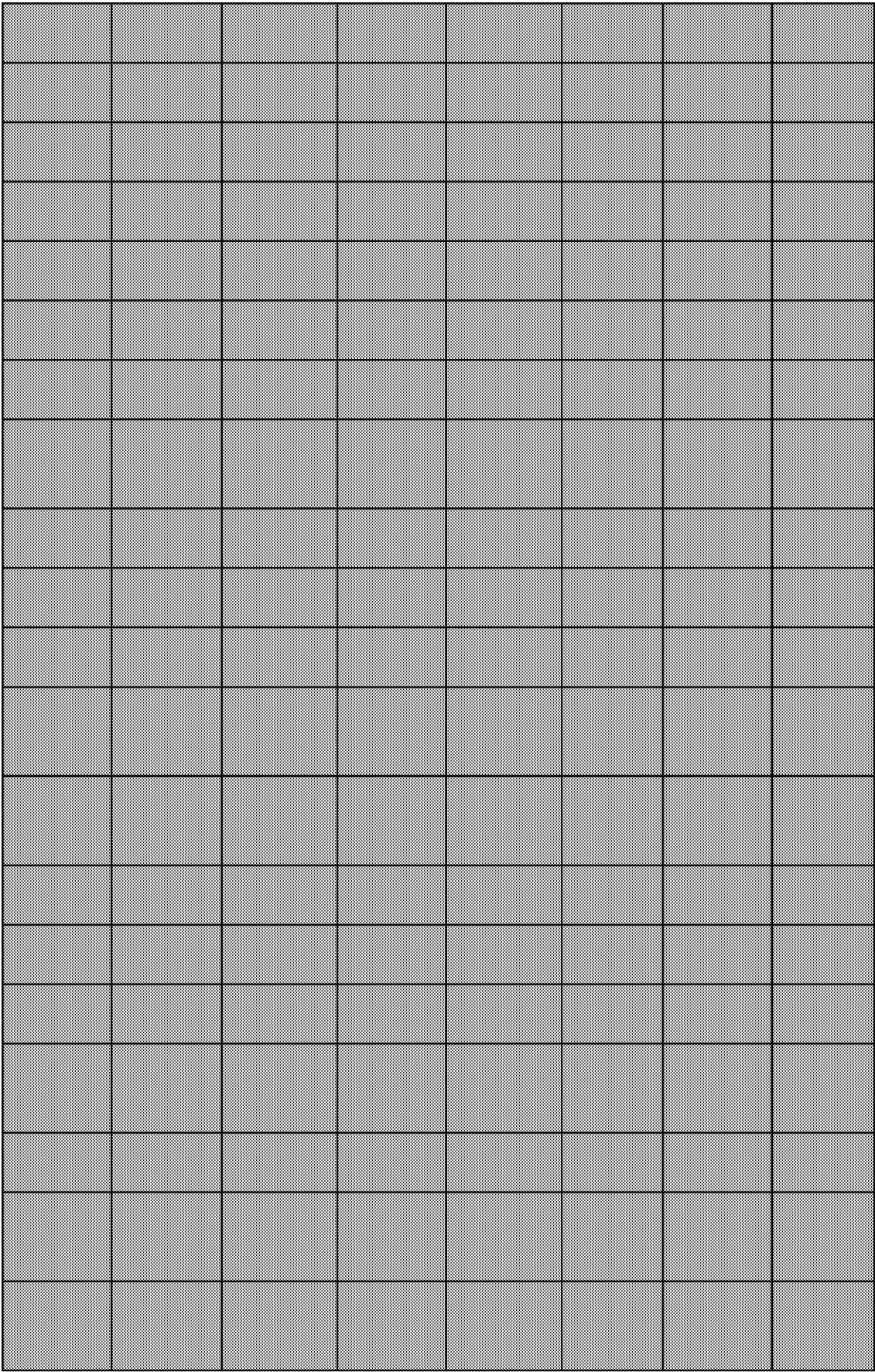
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Vegetative growth and reproductive growth strongly competes with each other during panicle development in litchi (Litchi chinensis) [1]
The mode of action of many pesticides is to inhibit electron transport chain complexes of the mitochondria of living cells. The inhibition of electron transport chain complexes leads to the accumulation of reactive oxygen species (ROS) which causes oxidative damage to the cells [2]
Photosynthesis is one of the most important processes in plant biology and in the development of new methodologies to improve crop yields [1]
A chemical-responsive bis(m-phenylene)-32-crown-10/2,7-diazapyrenium salt [2]pseudorotaxane was prepared. It was found that the pseudorotaxane could be used as a molecular switch [3]
Mancozeb (manganese/ zinc ethylene bis-dithiocarbamate) is an organometallic fungicide that has been associated with the development of resistance in many fungi [1]
The roles of four conserved basic amino acids in the reaction catalyzed by the ferredoxin-dependent nitrate reductase from <i>Escherichia coli</i> were investigated [2]
The incorporation of amphiphilic tetrapyrrole macrocycles in organized media is of great value for a variety of fundamental and applied studies [1]
An electrochemical magneto immunosensor for the detection of low concentrations of paraquat (PQ) in food samples has been developed [1]
The intermolecular electron transfer between the carboxylic dendritic zinc(II) phthalocyanines [G(1)-ZnPc(COOH)(8) and [G(1)-ZnPc(COOH)(8)] ²⁻ and [G(1)-ZnPc(COOH)(8)] ²⁻ and [G(1)-ZnPc(COOH)(8)] ²⁻ was studied [2]
The excited-state behavior of luminescent gold clusters provides new insights in understanding their photocatalytic activity [1]
A new electrochemical immunosensor has been developed to detect paraquat (PQ) pesticide residues in food samples. The sensor is based on the immobilization of anti-PQ antibodies on a gold electrode [1]
In this work we probe the hypothetically protective role of hydrogen peroxide for paraquat induced oxidative damage of DNA [1]
The response of photosystem II (PSII), of the non-target organism <i>Arabidopsis thaliana</i> , to paraquat (Pq) exposure was studied [1]
Hydrogenases are nature's efficient catalysts for both the generation of energy via oxidation of molecular hydrogen and the reduction of protons to molecular hydrogen [1]
The release of a Cys probe from the cavity of a water-soluble pillar[5]arene can be realized in an acidic microenvironment [1]
We have developed a simple and rapid colorimetric method for on-site analysis of thiram and paraquat using cyclen dithiolate [1]
Supramolecular nanoparticle clusters (SNPCs) have been formed in a microfluidic device by controlling the diffusive mixing of two solutions [1]
The binding modes, inclusion abilities, and thermodynamic parameters for the intermolecular complexation of p-sulfonated phthalocyanine with 18-crown-6 were studied [1]
We studied the adsorption of paraquat onto polyurethane foam (PUF) when it was in a medium containing sodium dodecyl sulfate (SDS) [1]

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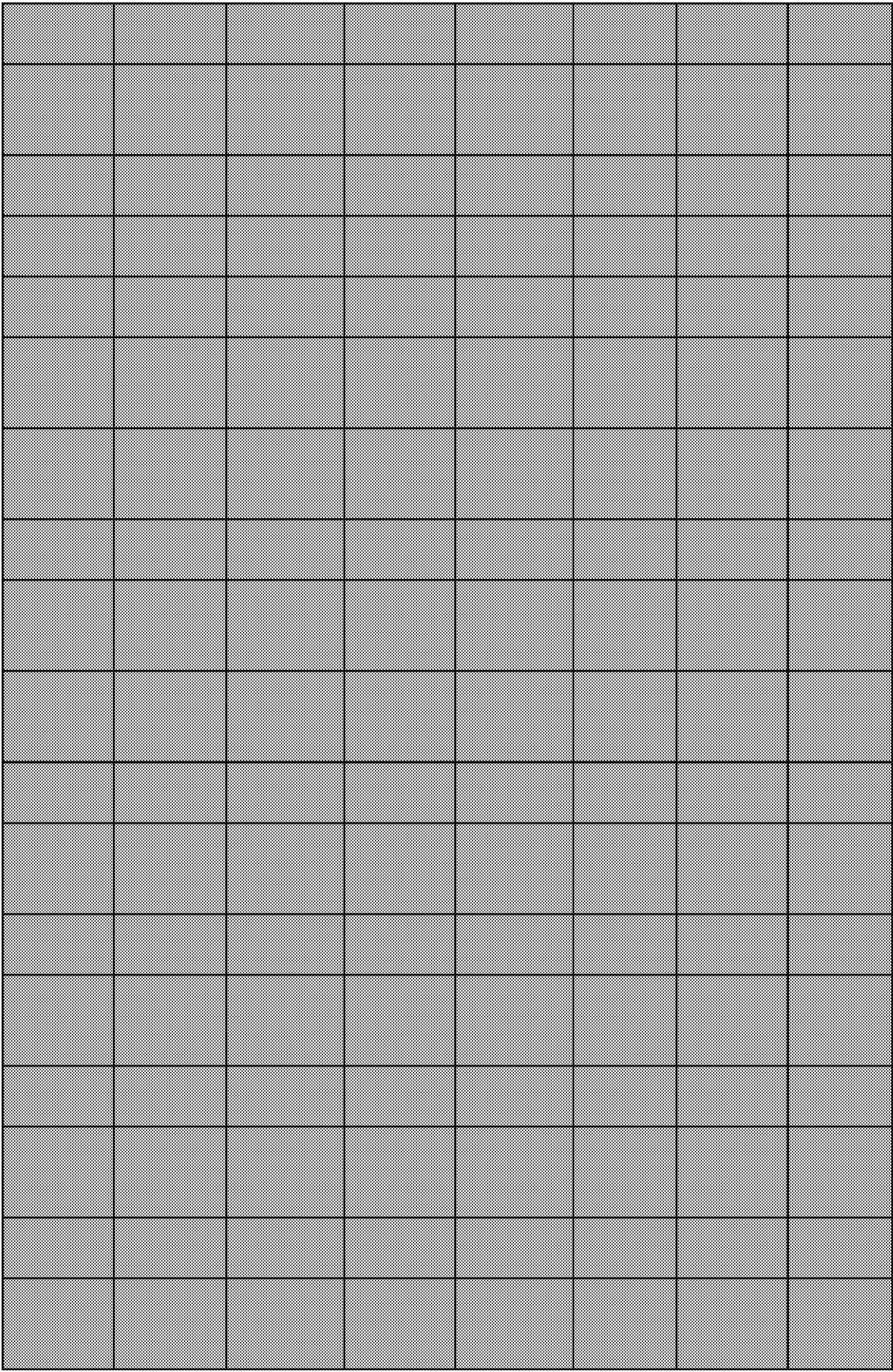
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To enhance adsorption capacity for paraquat, paper pulp cellulose is particularly oxidized via the TEMPO-mediated oxidation
Carbon paste electrodes (CPEs) modified with silver particles present an interesting tool in the determination of paraquat
Background and Aims Polyphenol oxidases (PPOs) catalyse the oxidation of monophenols and/or o-diphenols to highly reactive
Developing technology to decrease greenhouse gas emissions is one of the greatest challenges we face in the 21st century
Cu ₂ ZnSnS ₄ (CZTS) nanocrystals (NCs) were made via a one-pot solvothermal method with various amounts of available f
A silica/gold (SiO ₂ /Au) cavity array microelectrode was fabricated on a gold film-coated glass slide by using highly ordered
In order to detect trace concentrations of organic or biological molecules by surface-enhanced Raman scattering (SERS) t
Cyclic electron flow (CEF) alleviates PSII photo-inhibition under high light by at least two different mechanisms: one is lik
Conditions of oxidative stress may lead to cataract formation. Reaction of certain flavoproteins, the NADH: oxidoreducta
The dynamics of the electron-transfer quenching of photoexcited Ru(phen) ₃ (2+) by methyl viologen in solutions containi
The assimilatory nitrate reductase (NR) from the cyanobacterium <i>Anabaena doliolum</i> was membrane bound and solubili
Five supramolecular systems containing the Ru(ttp) ₂ (2+) photosensitizer (P) covalently linked to an electron acceptor (A)
No decrease in iron-sulphur centers was found in cultured macrophage cells (J 774) after the treatment with nitric oxide
The interaction of reduced and oxidized glutathiones with the herbicides diquat and paraquat was studied by charge-tran
Electron Spin Resonance and Spin Trapping techniques were used to demonstrate the generation of free radicals during t
The equilibrium binding constants of the charge-transfer complexes formed by the receptor cyclobis(paraquat-p-phenyle
When cultured in the presence of menadione, methyl viologen and, especially, benzyl viologen, <i>Micrococcus lysodeikticu</i>
Treatment of ferredoxin-dependent nitrite reductase, isolated from spinach leaves, with either the lysine-modifying reag

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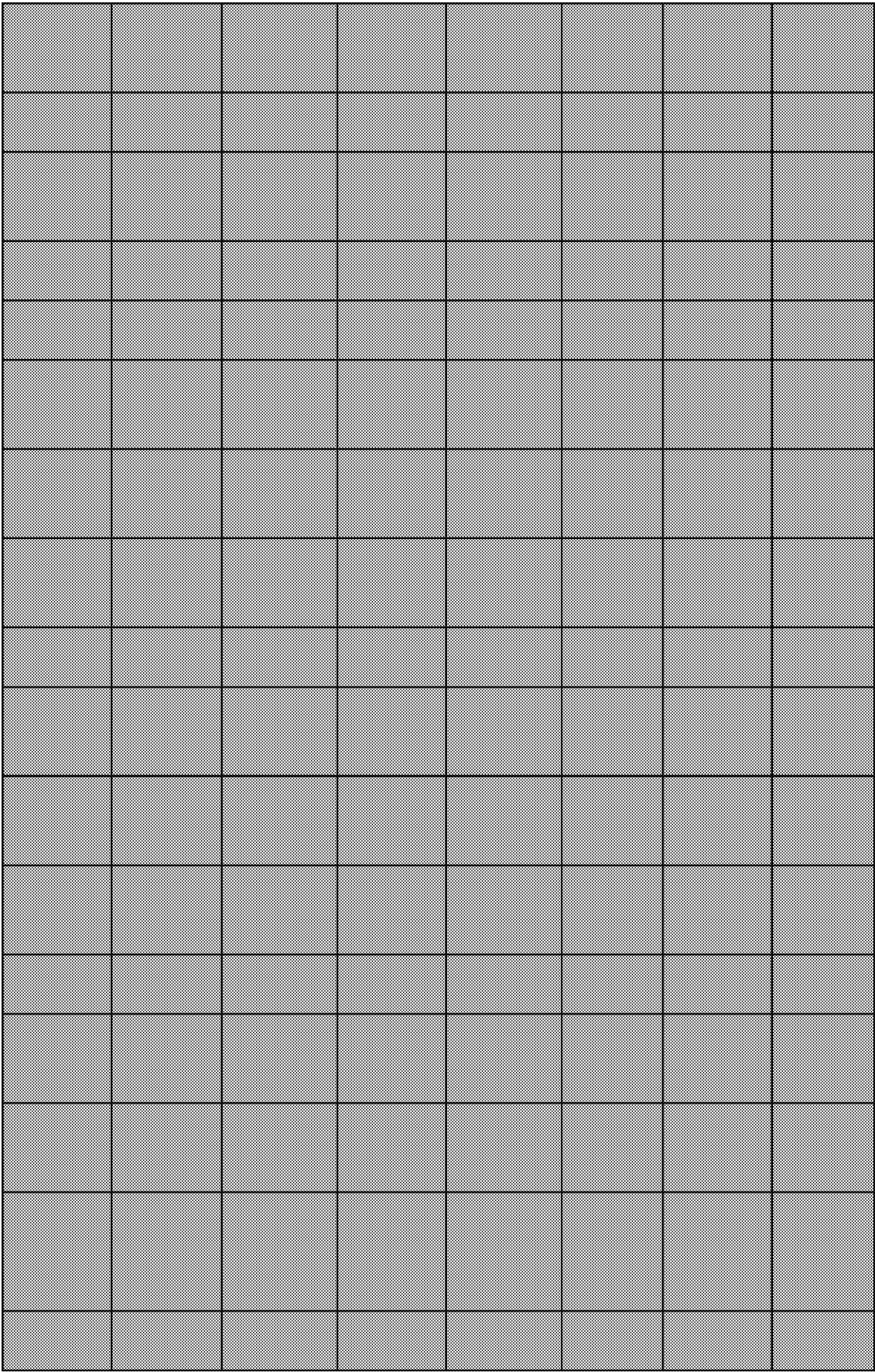
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After benzyl viologen administration to rats, a decrease in the rat liver glutamine synthetase activity was observed. An in
Treatment of ferredoxin-dependent, spinach glutamate synthase with either the arginine-modifying reagent phenylglyox
The relationship between the steady-state proton gradient (ΔpH) and the rate of phosphorylation was investigated i
Treatment of leaves of spinach, corn, and peas with the herbicides paraquat, amitrole or acifluorfen leads to oxidative str
Antibodies raised against the gel-purified denatured M(r) 63000 polypeptide of the ferredoxin-nitrite reductase from Chl
The hyperthermophilic archaeon <i>Pyrococcus furiosus</i> was found to form substantial amounts of L-alanine during batch gr
Transient resonance Raman spectra have been acquired for the chromophore-quencher complexes fac-[(bpy)-Re(I)(CO) ₃
On reaction of e(aq)(-) with protonated dopamine (D) a transient optical absorption band [formed at $\lambda_{\text{max}} = 355$
A photoredox-active ligand (CL), the chromophore-quencher complexes Cu(CL)(CF ₃ SO ₃) ₂ (1) and Cu(CL)-(H ₂ O) ₂ (CF ₃ SO ₃)
Ferredoxin-glutamate synthase from the green algae <i>Monoraphidium braunii</i> has been purified (specific activity 16.5 U/r
Three monoclonal hybridoma cell lines were selected by the epitope specificity for the electron donor (ferredoxin and m
The conjugated redox reaction was driven across the electron transfer membrane prepared from a urethane prepolymer
We studied the sensitivity to oxygen of the reductases involved in denitrification by whole cells and membrane fractions
Descriptions of the effects of paraquat (P ₂ ⁺) on the peroxidation of liver microsomes are very divergent. Therefore, the p
A mediated amperometric enzyme electrode sensitive to NADP(+) was developed by co-immobilization of ferredoxin-NA
The structures of by-products, observed as weak side peaks on the chromatogram by gas chromatographic analysis, were
Recently, self-assembly processes have been used for the construction of a wide diversity of molecular and supramolecu

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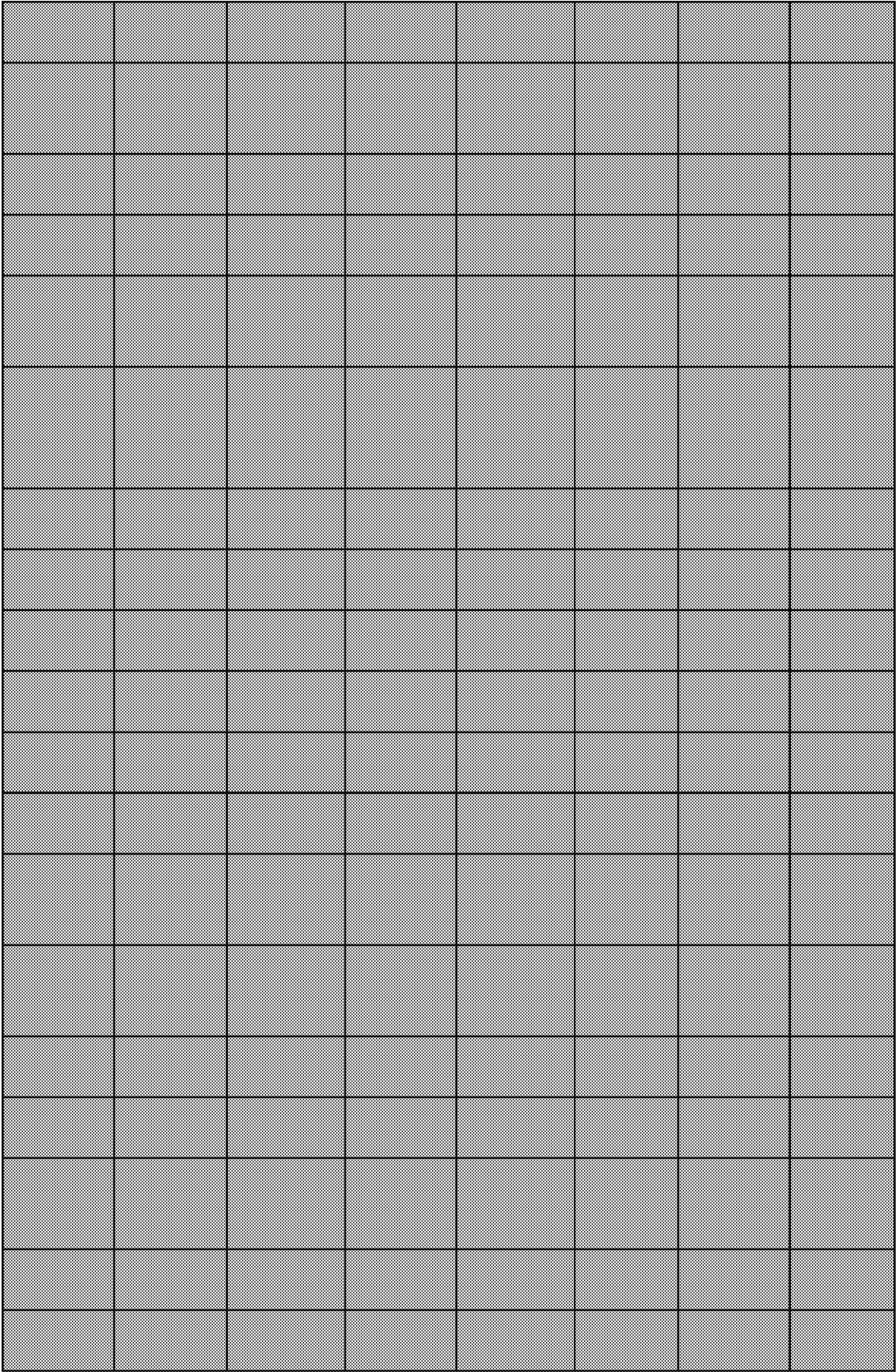
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The ferredoxin:thioredoxin reductase is an essential enzyme of the light dependent regulatory system in oxygenic photosynthesis
An NAD(H)-dependent artificial mediator accepting pyridine nucleotide oxidoreductase present in <i>Clostridium thermoaceticum</i>
The iron storage protein ferritin can contribute to or protect against toxicities which involve iron. Iron can catalyze the oxidation of organic substrates
The formation of reactive oxygen species during the redox cycling of sodium nitroprusside by rat liver microsomes and by isolated mitochondria
Photosynthetic carbon metabolism is initiated by ribulose-bisphosphate carboxylase/oxygenase (Rubisco), which uses both light and CO ₂ to fix carbon
A series of hemo-protein-derived photocatalysts, prepared by reconstitution of the respective apo-proteins with Co(II)-porphyrins, were used to study the photocatalytic reduction of organic substrates
The influence of various experimental parameters on the electrochemical response of zeolite-modified electrodes (ZMEs) to the reduction of organic substrates
Intracellular production of active oxygen in the brown alga <i>Fucus evanescens</i> C. Ag: was studied by measuring the capacity of the cells to reduce a specific substrate
The present study was designed to investigate the effects of 2-nitrosofluorene (NOF), a metabolite of carcinogenic 2-acetylfluorene, on the growth and survival of <i>Escherichia coli</i> cells
Strong irradiation induced in isolated chloroplasts and thylakoids of <i>E. gracilis</i> inactivating and damaging processes of membrane proteins
When <i>Clostridium formicoaceticum</i> was grown on fumarate or L-malate crude cell extracts contained a high fumarate reductase activity
Fluorescein was covalently attached through a cysteamine linker group to carboxy-derivatized polyacrylamide microsphere supports
The psaB gene product (PsaB protein), one of the reaction center subunits of Photosystem I (PS I), was specifically degraded by a specific protease
<i>Rhodobacter sphaeroides</i> f. sp. <i>denitrificans</i> biotin sulfoxide reductase has been heterologously expressed in <i>Escherichia coli</i>
We examined effects of several compounds, structurally related to 1-methyl-4-phenylpyridinium (MPP+), on the NADH-dependent reduction of nitroprusside
The flavoenzyme ferredoxin-NADP+ reductase (FNR) is a member of the cellular defense barrier against oxidative damage
Incubation of wild-type ferredoxin (Fd) with <i>Chlamydomonas reinhardtii</i> crude extract in the presence of a carboxyl active substrate
As part of our studies of <i>Azospirillum brasilense</i> glutamate synthase, a complex iron-sulfur flavoprotein, we have overproduced and purified the enzyme
We investigated the existence of an NADH-dependent paraquat (PQ) reduction system in rat liver mitochondria (Mt) in relation to the mitochondrial electron transport chain

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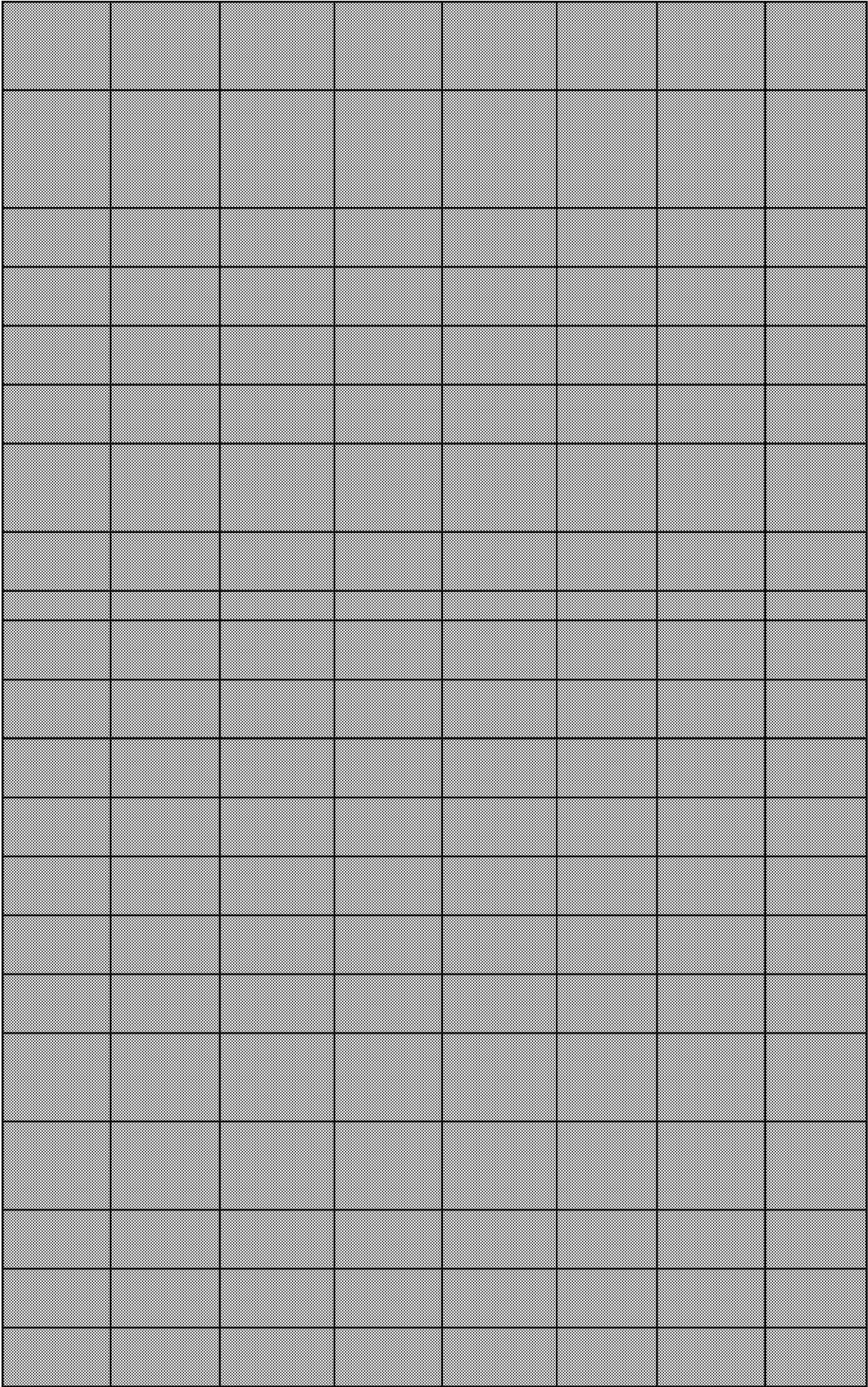


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Treatment of the ferredoxin-dependent, spinach glutamate synthase with N-bromosuccinimide (NBS) modifies 2 mol of t
7,8-Dihydroxy-4-methylcoumarin (DHMC) and 7,8-diacetoxy-4-methylcoumarin (DAMC) have been reported to effective
The katG gene coding for the only catalase-peroxidase in the cyanobacterium <i>Synechocystis</i> sp. strain PCC 6803 was dele
We observed induction of additional trichome formation on the adaxial surface of mature leaves of <i>Arabidopsis</i> after ma
The generation of oxygen free radicals was investigated using cytochemistry and its energy-filtering transmission electro
The chick kidney mitochondrial iron--sulphur protein (ferredoxin), a component of the NADPH--cytochrome P-450 reduct
The first one-electron reduction steps of paraquat and diquat were compared using microsomal and mitochondrial fracti
The stability of chloroplastic glutamine synthetase (GS; EC 6.3.1.2) was investigated under photooxidative stress using w
Some six or so physiological systems, essential to normal mammalian life, are involved in poisoning; an intoxication that
Previous work showed a transient but dramatic arrest in the synthesis of Rubisco large subunit (LSU) upon transfer of Chl
No decrease in iron-sulphur centers was found in cultured macrophage cells (J774) after the treatment with nitric oxide (
Metabolic pathways involved in the formation of cytotoxic end products by <i>Porphyromonas gingivalis</i> were studied. The
<i>Rhodobacter sphaeroides</i> f. sp. <i>denitrificans</i> biotin sulfoxide reductase (BSOR) catalyzes the reduction of d-biotin d-sulfox
Standard electrochemical data for high-quality, boron-doped diamond thin-film electrodes are presented. Films from two
We compared the effect of photoinhibition by excess photosynthetically active radiation (PAR), UV-B irradiation combine
Chloroplast-encoded NDH polypeptides (components of the plastid Ndh complex) and the NADH dehydrogenase activity
Methylviologen (MV) induces oxidative damages in leaves. In order to understand its mechanism we studied initial bioch
Heavy metals and polycyclic aromatic hydrocarbons (PAHs) are often cocontaminants in industrialized environments, yet
<i>Paracoccus halodenitrificans</i> , grown anaerobically in the presence of nitrite, contained membrane and cytoplasmic nitrit
Excitation into either the metal-to-ligand charge-transfer, MLCT, band or the ligand field, LF, band of W(CO)(4)(phen) pro
Quenching of the 3MLCT excited state of [Ru(bpy)3]2+ (bpy=bipyridine) by the reduction products (MV*+ and MV0) of m

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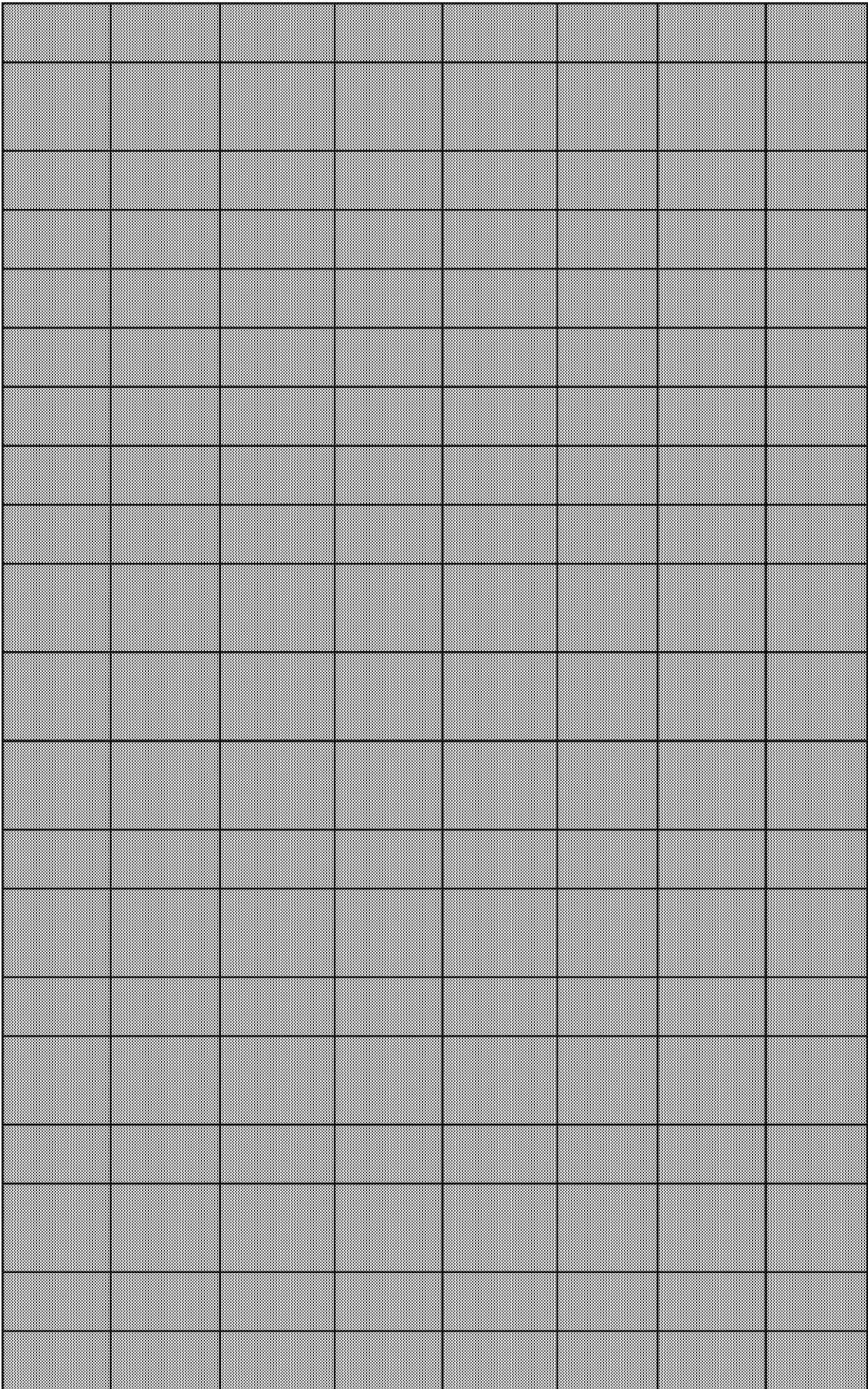
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Reactive oxygen species (ROS) are involved the damage of living organisms under environmental stress including UV radi
This in vitro study investigated the formation of hydroxyl radicals (*OH) under anaerobic conditions through the direct re
Copper has been suggested to facilitate oxidative tissue injury through a free radical-mediated pathway analogous to the
Intermolecular electron and energy transfer from a light-harvesting metallodendrimer [Ru[bpy(C-450)(4)](3)](2+), where
Ferredoxin NADP(H) oxidoreductases (FNR) are flavoenzymes that catalyze the electron transfer between NADP(H) and a
With the end goal of incorporating the unique structural and physical properties of dendrimers into supramolecular asse
Several oxidative and non-oxidative stresses were applied to two transgenic strains of <i>Drosophila melanogaster</i> (designa
Oxygen free radicals and hydroperoxides have been postulated to play a causal role in the aging process, implying that a
Superoxide dismutases (SOD) play a major role in the intracellular defense against oxygen radical damage to aerobic cell
Eight strains of <i>C. elegans</i> , including seven recombinant inbred (RI) strains with mean life spans ranging from 10.9 to 28.8
The extended longevity phenotype (ELP) characteristic of our selected long-lived strain of <i>Drosophila</i> is brought about by
The random, free-radical-mediated oxidations of biological molecules result in membrane degradation leading to cellular
Mutations in the age-1 gene double both the mean and maximum life span of <i>Caenorhabditis elegans</i> . They also result in
Reactive oxygen species have been postulated to be a causal factor in the aging process due to their ability to inflict mole
The metallothionein system in <i>Drosophila melanogaster</i> is composed of two genes, Mtn and Mto. In order to compare th
The w/w+ somatic mutation and recombination test (SMART) of <i>Drosophila melanogaster</i> is a fast and low cost in vivo as
That free radical destruction of macromolecules is a basis of aging and age-related diseases has considerable experiment
Mutants of <i>Drosophila melanogaster</i> that lack Cu/Zn superoxide dismutase or urate are hypersensitive to reactive oxyge
A spontaneous mutant of mev-3 of the nematode <i>Caenorhabditis elegans</i> was isolated on the basis of its resistance to m
Glutathione reductase catalyzes the conversion of the oxidized form of glutathione to regenerate reduced glutathione, w

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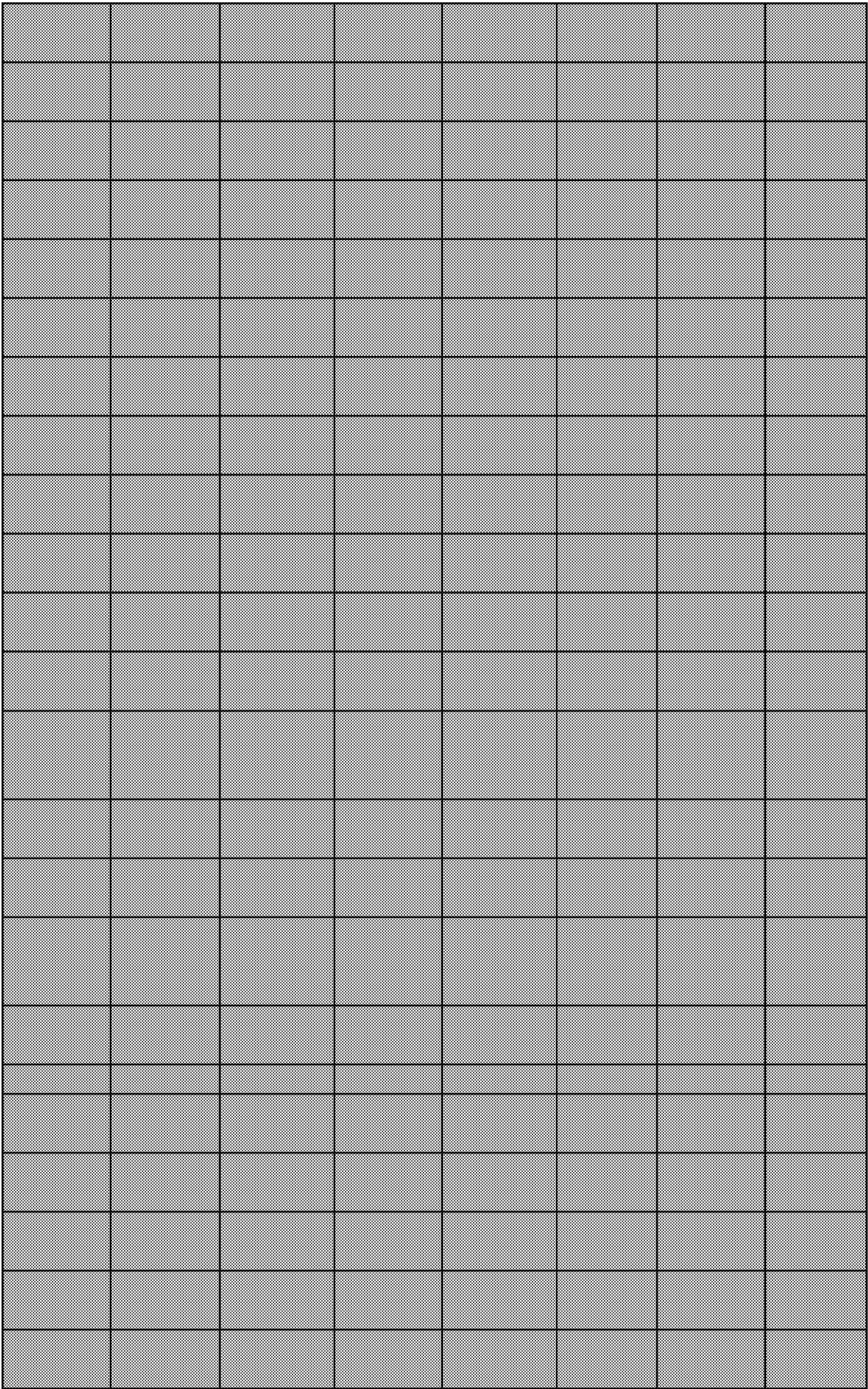
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The biological effect of antioxidants which showed high superoxide-scavenging (SOS) activity in an in vitro analysis was e
The role of the citric acid cycle enzyme NADP-dependent isocitrate dehydrogenase (IDH-NADP) and its allele product var
Recent genetic analyses of longevity in animals have revealed that long-lived strains are more tolerant to environmental
Toward a genetic dissection of the processes involved in aging, a screen for gene mutations that extend life-span in Dros
Cu-Zn superoxide dismutase (cSOD) is an enzyme of critical importance for the inactivation of superoxide radicals genera
Calorie restriction (R) is the only known method to delay the aging process and extend mean and maximal lifespan in rod
The somatic mutation and recombination w/w+ eye assay has been used for genotoxic evaluation of a broad number of c
Identifying the mechanisms determining species-specific life spans is a central challenge in understanding the biology of
Gene mutations in invertebrates have been identified that extend life span and enhance resistance to environmental stre
We investigated the life span of spe-10 mutant nematodes. We also tested resistance of spe-10 mutants to ultraviolet (U
Five independent populations (lines) of Drosophila melanogaster were selected for female starvation resistance. Female
The effect of deleting both catalase genes and of increased oxygen as well as paraquat (a pro-oxidant) on the replicative
Some years ago we applied simultaneously an identical regime of selection for late-life reproduction to several normal-li
1,1'-Dimethyl-4,4'-bipyridinium dichloride (methyl viologen; paraquat), an herbicide that causes depletion of NADPH and
Stress resistance is associated with longevity in Drosophila melanogaster and other model organisms used for genetic res
Aging is a universal but poorly understood biological process. Free radicals accumulate with age and have been proposed
Much attention has been focused on the hypothesis that oxidative damage plays in cellular and organismal aging. A me
Apurinic/apyrimidinic endonuclease is a key enzyme in the process of base excision repair, required for the repair of spo
Little is known about physiological mechanisms that underlie the cost of reproduction. We tested the hypothesis that str
The present study tests the hypothesis that reproduction is correlated with decreased oxidative stress resistance. In num
In today's society, human activities and lifestyles generate numerous forms of environmental oxidative stress. Oxidative
We have developed a strategy using Drosophila as a model system to identify genes that are crucial for extension of long

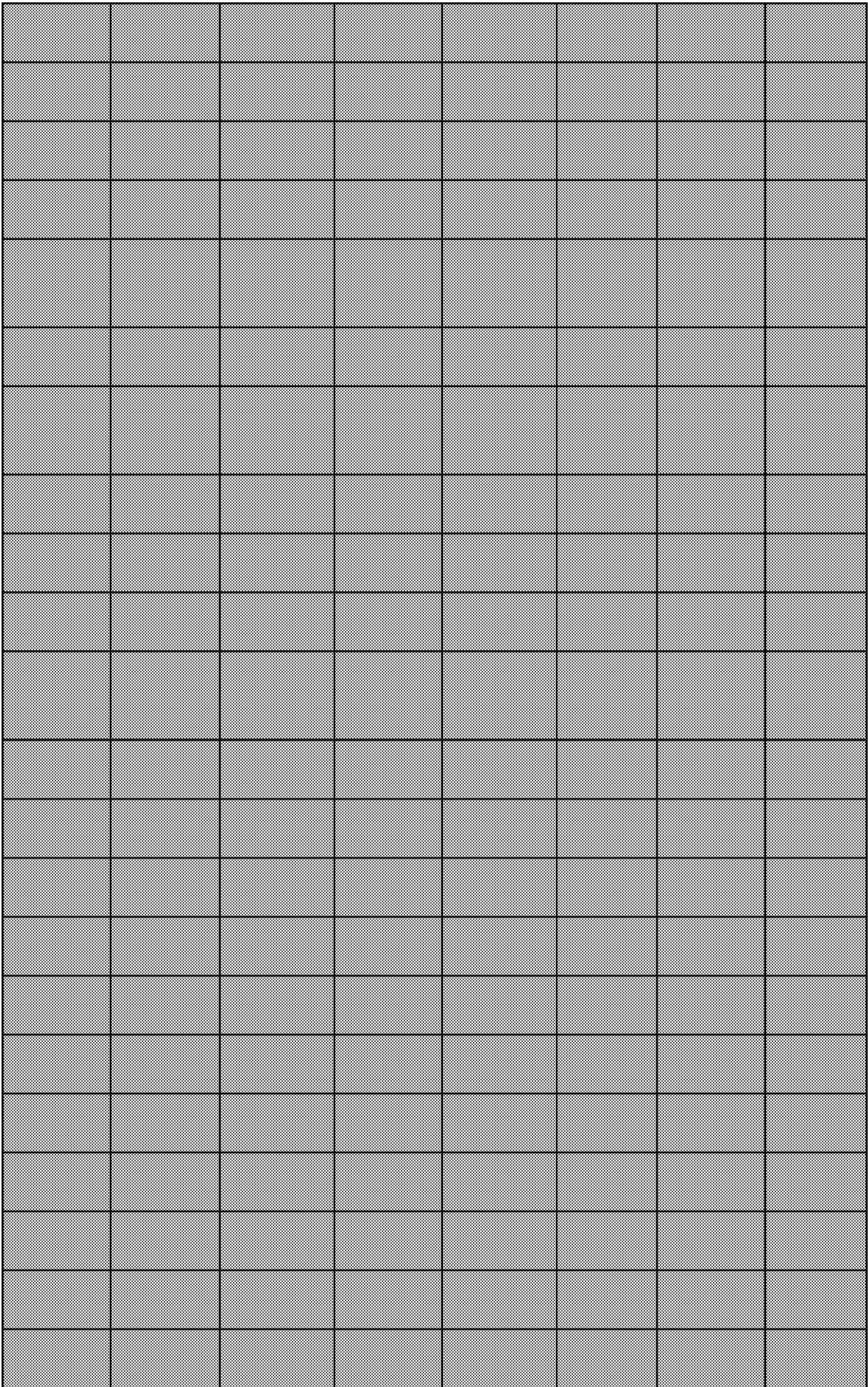


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Increased protection from reactive oxygen species (ROS) is believed to increase life span. However, it has not been clear
Life span was measured by counting budding cycles in cohorts of yeast cells treated with erythromycin, paraquat, or gen
We used both selection and single-gene mutagenesis studies to identify the mechanisms underlying the genetic control o
Cumulative oxidative damages to cell constituents are considered to contribute to aging and age-related diseases. The e
Numerous studies have shown that the lifespan can be extended by caloric restriction or by altering the growth hormone
Oxidative damage is thought to be a major causal factor of aging, and is implicated in several human pathologies such as
Oxidative stress has been widely implicated as an important factor in the aging process. Because mitochondrial respirati
Oxidative damage shortens the life span of the nematode <i>Caenorhabditis elegans</i> (<i>C. elegans</i>), even in an age-1 mutant t
The goal of this study was to test the hypothesis that the rate of mitochondrial oxidant production governs the aging pro
Several lines of evidence indicate that selenoproteins mainly act as cellular antioxidants. Here, we test this idea compari
Recently, we identified a set of five genes constituting the peroxiredoxin gene family in <i>Drosophila melanogaster</i> [Radyu
During the earliest stages of <i>Caenorhabditis elegans</i> embryogenesis, the transcription factor SKN-1 initiates developmen
Genetic analyses of lifespan in model animals have revealed that extended lifespans are closely associated to increased r
Iron and oxygen are essential but potentially toxic constituents of most organisms, and their transport is meticulously reg
The mitochondrial succinate dehydrogenase (SDH) is a tetrameric iron-sulfur flavoprotein of the Krebs cycle and of the re
The genetic basis for aging is being intensely investigated in a variety of model systems. Much of the focus in <i>Drosophila</i>
To date, more than 40 genes have been identified in the nematode <i>Caenorhabditis elegans</i> , which, when mutated, lead t
The lifespan of <i>Caenorhabditis elegans</i> can be extended by the administration of synthetic superoxide dismutase/ catalas
A null mutation for the Sod2 gene, Sod2n283, was obtained in <i>Drosophila melanogaster</i> . Homozygous Sod2 null (Sodn28
Heat shock proteins (Hsp) are involved in protein folding, transport and stress resistance. Studies reporting an increased
The relationship between oxidative stress and longevity is a matter of concern in various organisms. We isolated mutant
L-glutamate is both the major brain excitatory neurotransmitter and a potent neurotoxin in mammals. Glutamate excitot

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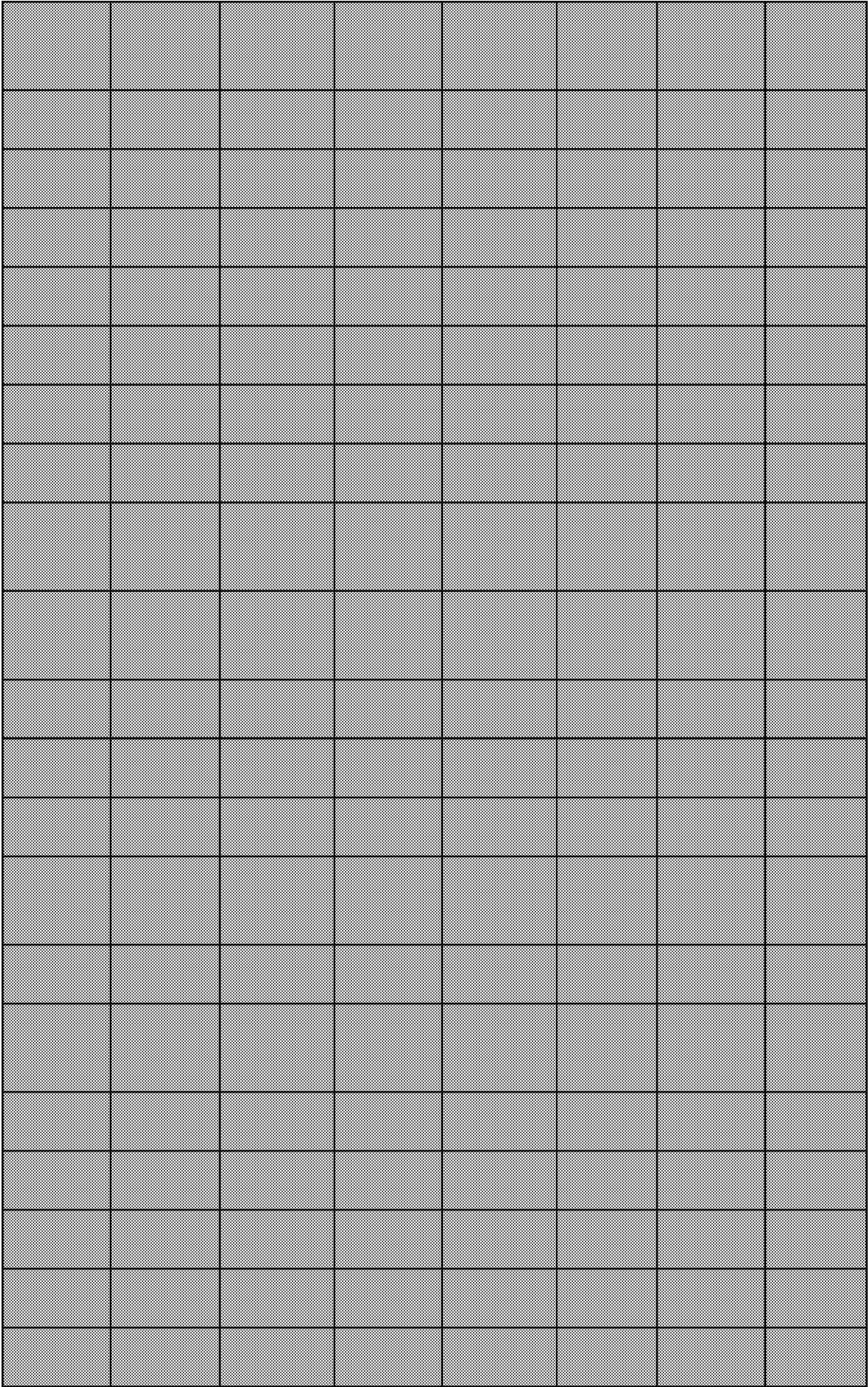
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According to the oxidative damage theory a primary cause of aging is the accrual of molecular damage from reactive oxy
BACKGROUND: During their life, multicellular organisms are challenged with oxidative stress. It is generated by several r
The replicative lifespan of <i>Saccharomyces cerevisiae</i> is determined by both genetic and environmental factors. Many of t
<i>Drosophila hsp22</i> is a member of the small heat shock proteins family (shsps). The hsp22 is expressed in a tissue-general
Pre-mRNA adenosine deaminase (ADAR) is involved in many physiological processes by either directly converting adenos
Previous studies have shown that dermal fibroblast cell lines derived from young adult mice of the long-lived Snell dwarf
Inactivation of insulin-like growth factor I (IGF-I) signalling pathways have been shown to extend lifespans in various low
Mutations in the <i>mev-1</i> and <i>gas-1</i> genes of the nematode <i>Caenorhabditis elegans</i> render animals hypersensitive to oxyge
Much attention has focused on the insulin-like signaling pathway in <i>Caenorhabditis elegans</i> because of its pivotal role in
Proton-translocating mitochondrial nicotinamide nucleotide transhydrogenase (NNT) was investigated regarding its phys
Behaviors modulated by dopamine appear to be conserved across species. In the model system <i>Drosophila melanogaste</i>
The oxidative stress hypothesis predicts that the accumulation of oxidative damage to a variety of macromolecules is the
The oxidative stress hypothesis of aging predicts that a reduction in the generation of mitochondrial reactive oxygen spe
Calorie restriction (CR) extends the life span of various species through mechanisms that are as yet unclear. Recently, we
The hypothesis that overexpression of glutamate-cysteine ligase (GCL), which catalyzes the rate-limiting reaction in de no
<i>Caenorhabditis elegans</i> expresses a glutathione transferase (GST) belonging to the Pi class, for which we propose the nar
<i>klotho</i> is an aging suppressor gene and extends life span when overexpressed in mice. <i>Klotho</i> protein was recently demo
To analyze the relationship between resistance to oxidative stress and longevity, we isolated three novel paraquat-resist
Electrophilic stress caused by lipid peroxidation products such as 4-hydroxynonenal (4-HNE) and/or related compounds r
Deregulation of energy metabolism by external interventions or mutations in metabolic genes can extend lifespan in a w
We used the fruit fly <i>Drosophila melanogaster</i> to test the effects of feeding the superoxide dismutase (SOD) mimetic dru

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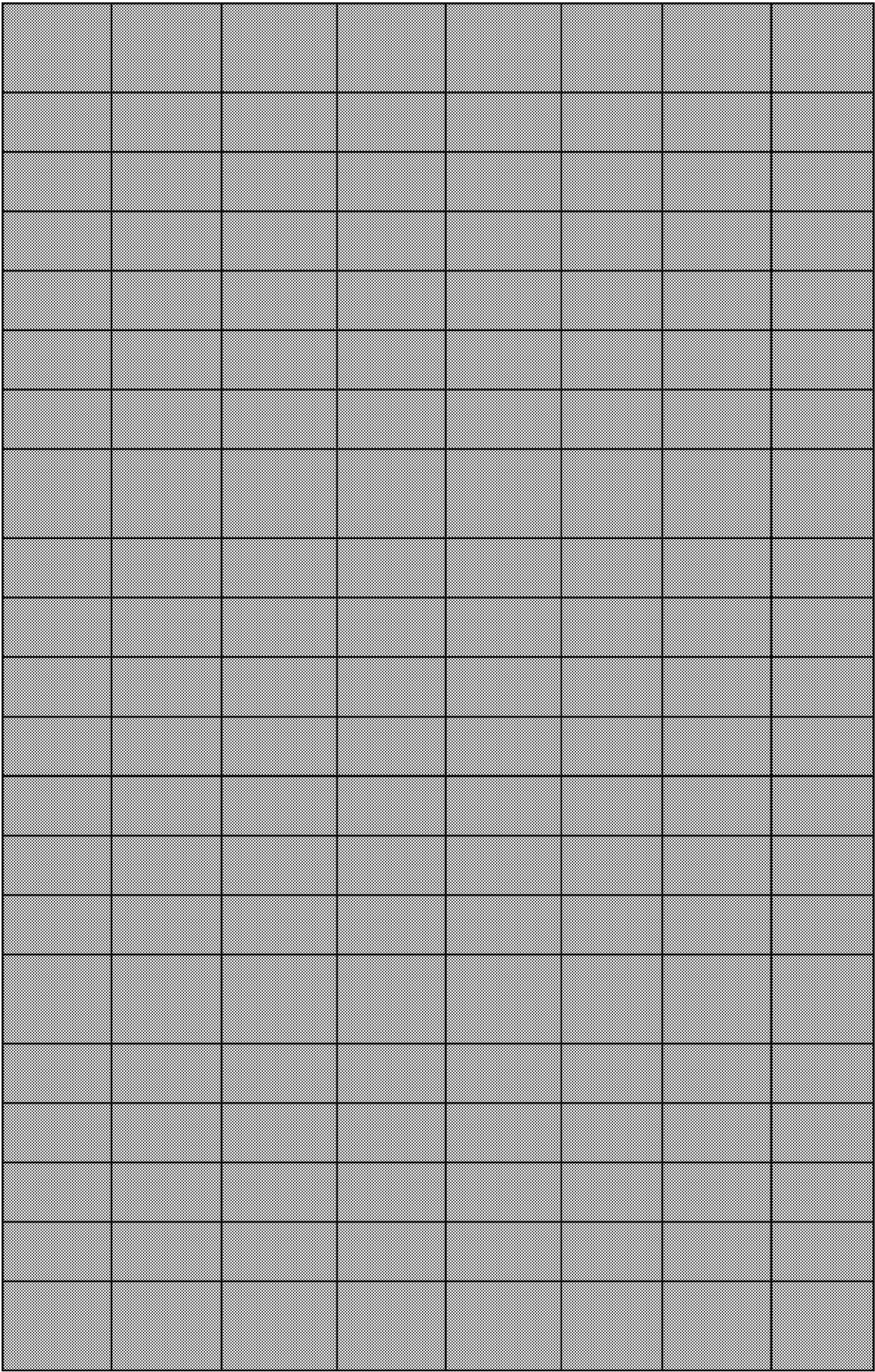
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There is increasing support for the notion that genetic variation for lifespan, both within and between species, is correlated with other traits.
The vertebrate Apolipoprotein D (ApoD) is a lipocalin secreted from subsets of neurons and glia during neural development.
Septic injury triggers a rapid and widespread response in <i>Drosophila</i> adults that involves the up-regulation of many genes.
Inherited mutations in PARK7, the gene encoding DJ-1, are associated with loss of protein function and early-onset parkinsonism.
One of the most consistent behavioral changes that occurs with age in humans is the loss of sleep consolidation. This can be studied in model organisms.
Fibroblast cell lines derived from the skin of young adult mice of the long-lived Snell dwarf mutant mouse stock have been used to study aging.
Oxidative stress, caused by free radicals within the body, has been associated with the process of aging and many human diseases.
The efficacy of melatonin, glutathione, serotonin, minocycline, lipoic acid and ascorbic acid in counteracting the toxicity of oxidative stress has been studied.
Fibroblast cell lines were developed from skin biopsies of eight species of wild-trapped rodents, one species of bat, and a species of primate.
Markers of oxidative damage have been detected in brain tissue from patients with Alzheimer disease (AD) and other neurodegenerative diseases.
The level of adipokinetic hormones (AKHs) (Peram-CAH-I and II) in the corpora cardiaca and the hemolymph of <i>Leptinotarsus</i> has been studied.
Silent information regulator (Sir)2, a class III histone deacetylase, mediates lifespan extension in model organisms and protects against aging.
Resveratrol is a naturally occurring polyphenolic compound commonly found in plant-derived products, including red wine and grapes.
Injections of 38 pmol paraquat (1,1'-dimethyl-4,4'-bipyridilium) into adult <i>Pyrrhocoris apterus</i> (average body weight 29.6 mg) resulted in a dose-dependent increase in mortality.
Genetic studies in many organisms suggest that an increased animal lifespan phenotype is often accompanied by enhanced resistance to oxidative stress.
Genetic variation in adult life span, resistance to paraquat, resistance to DDT, and spontaneous flying activity were measured in <i>Drosophila</i> populations.
To elucidate the function of Omega class glutathione transferases (GSTs) (EC 2.5.1.18) in multicellular organisms, the GSTs from adult <i>Drosophila melanogaster</i> have been partially purified using three different affinity chromatography methods.
Here we use a large-scale RNAi suppression screen to identify additional kinases playing a role in the activation of SKN-1, a transcription factor involved in oxidative stress response.
Oxidative stress has been suggested to create a link between 'good genes' and carotenoid coloration via an allocation cost hypothesis.
The <i>Caenorhabditis elegans</i> rad-3 gene was identified in a genetic screen for radiation sensitive (rad) mutants. Here, we have characterized the rad-3 mutant.

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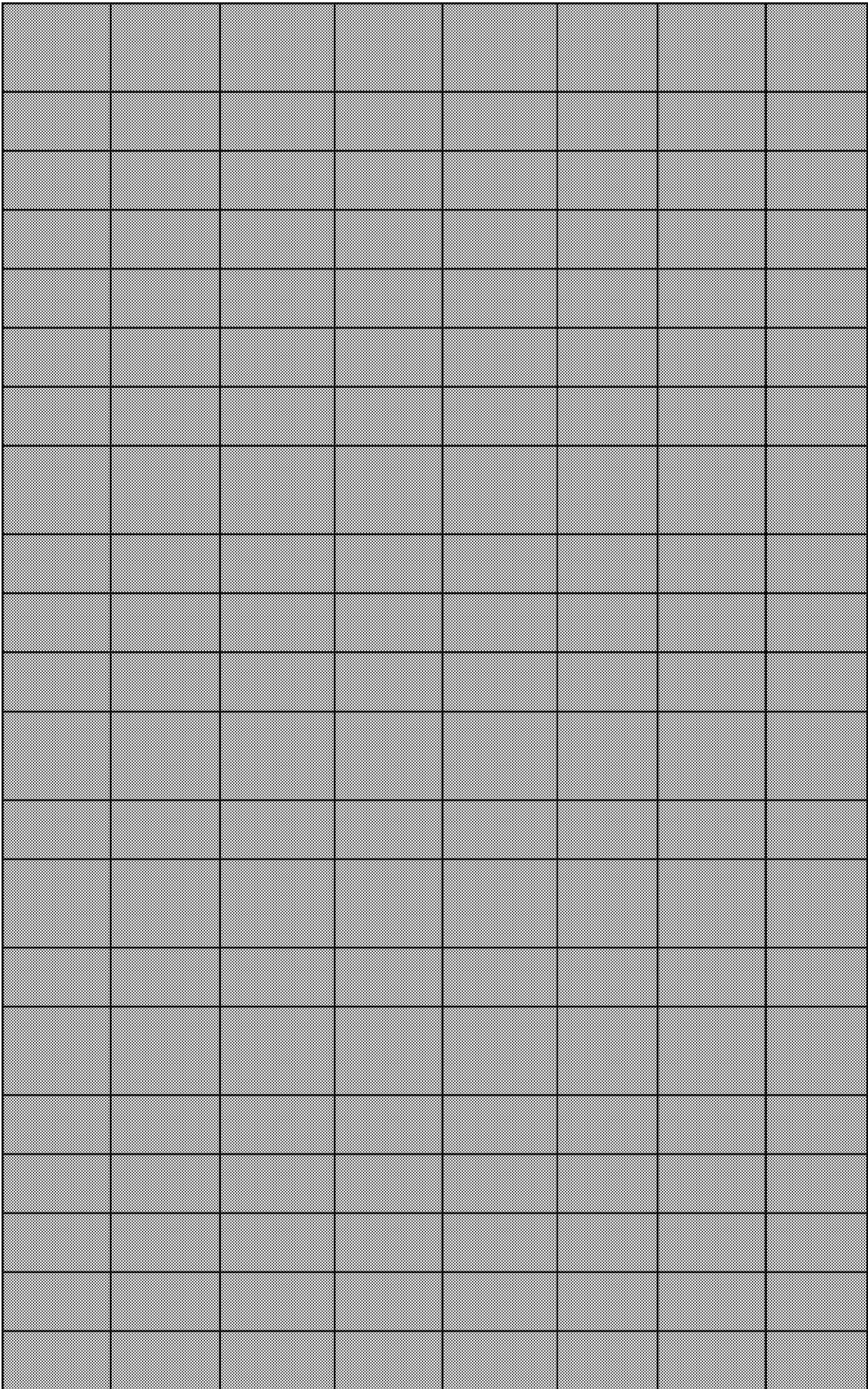
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SOD-1 and SOD-2 detoxify superoxide in the cytoplasm and mitochondria. We find that, although several long-lived muta
The nuclear hormone receptor peroxisome proliferator activated receptor gamma (PPARgamma) critically regulates adip
Keap1/Nrf2 signaling defends organisms against the detrimental effects of oxidative stress and has been suggested to ab
Heat shock proteins are induced under stress conditions and they act as molecular chaperones to refold denatured polyp
Age-associated changes in stem cell populations have been implicated in age-related diseases, including cancer. Howeve
Current mechanistic theories of aging would predict that many species of birds, given their unusually high metabolic rate
We have shown that platinum nanoparticles (nano-Pt) are a superoxide dismutase (SOD)/catalase mimetic. Various data
AAK-2 is one of two alpha isoforms of the AMP-activated protein kinase in Caenorhabditis elegans and is involved in life s
A systematic genome-wide RNA interference screen was performed in the Caenorhabditis elegans lin-15b;eri-1 strain, wi
Many nervous system pathologies are associated with increased levels of apolipoprotein D (ApoD), a lipocalin also expre
The C. elegans eat-3 gene encodes a mitochondrial dynamin family member homologous to Opa1 in humans and Mgm1
Apolipoprotein D (ApoD) expression increases in several neurological disorders and in spinal cord injury. We provide a re
Drosophila melanogaster (fruit fly) is a well-established model organism for genetic studies of development and aging. W
Since some oxygen defense mutants of Drosophila melanogaster exhibit a crinkled wing phenotype, a screen was perform
Extracts of plant adaptogens such as Eleutherococcus senticosus (or Acanthopanax senticosus) and Rhodiola rosea can in
Cannabinoids have been shown to function as protective agents via receptor-independent and/or receptor-dependent m
The transcription factor DAF-16/forkhead box O (FOXO) is a critical longevity determinant in diverse organisms, however
The free radical theory of aging is one of the most prominent theories of aging and senescence, but has yet to be definiti
Resembling the main function of insect adipokinetic hormones (AKHs), the vertebrate hormone glucagon mobilizes energ
Peroxiredoxin 5 is a distinct isoform of the peroxiredoxin gene family. The antioxidative and anti-apoptotic functions of p
The oxidative stress theory of aging postulates that aging results from the accumulation of molecular damage caused by

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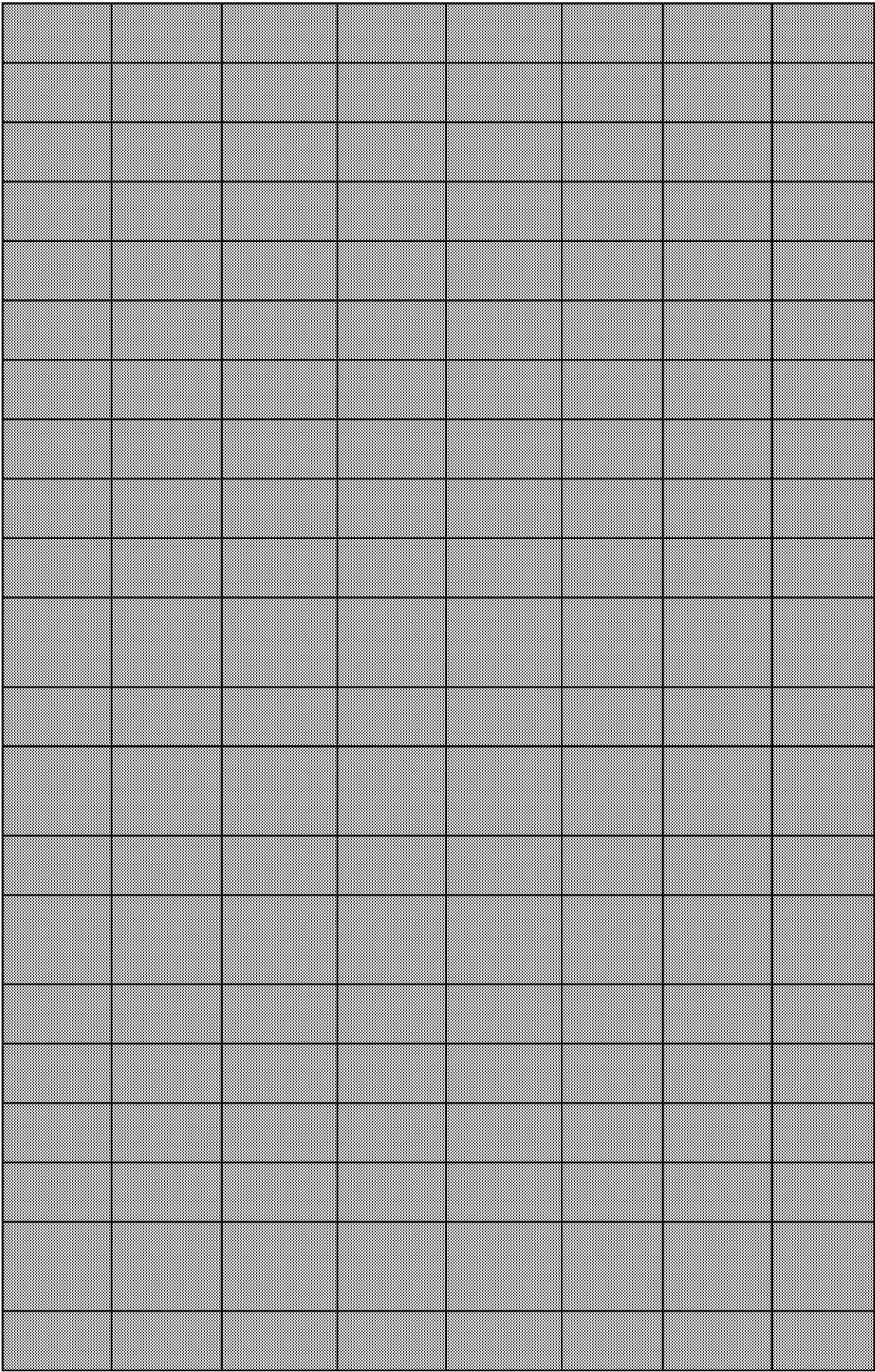
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Deficiency of the <i>Caenorhabditis elegans</i> protein, DIC-1, located in the inner membrane of mitochondria produces an abn
The mitochondrial succinate dehydrogenase (SDH) is an iron-sulfur flavoenzyme linking the Krebs cycle and the mitochor
Johnson and Wood constructed recombinant inbred strains of <i>Caenorhabditis elegans</i> with life spans ranging from 10 to
Age-related locomotor impairment (ARLI) is one of the most detrimental changes that occurs during aging. Elderly individ
<i>Rhodiola rosea</i> root has been long used in traditional medical systems in Europe and Asia as an adaptogen to increase an
Methionine sulfoxide reductase A (MsrA) repairs oxidized methionine residues within proteins and may also function as
The sexual dimorphism of life span and caloric restriction effects in numerous species suggest that estradiol (E2) is protec
OBJECTIVE: To explore the function of Bushen Kangshuai Tang (BKT), a compound traditional Chinese herbal medicine, in
Dietary restriction (DR) has been shown to robustly extend lifespan in multiple species tested so far. The pro-longevity ef
Genetic manipulations of Mn superoxide dismutase (MnSOD), SOD2 expression have demonstrated that altering the leve
The root extract from <i>Rhodiola rosea</i> has been reported to have numerous health benefits in human and animal studies.
We have shown that <i>Caenorhabditis elegans</i> lacking the PCM-1 protein repair l-isoaspartyl methyltransferase are more s
Parkinson's disease (PD) is a common progressive neurodegenerative disorder, for which at present no causal treatment
Activation of c-Jun N-terminal kinase (JNK) signaling in neurons increases stress resistance and extends life span, in part t
<i>Bacopa monnieri</i> , Linn. (Brahmi, BM), traditionally used to improve mental health in Indian ayurvedic system of medicine
BACKGROUND: Mitochondria have long been proposed to play an important role in the aging process. In the nematode <i>C</i>
Black tea extract (BTE) is a mixture of epicatechins and theaflavins. The present study investigated the effect of BTE on th
Transcriptional regulation of the antioxidant response element (ARE) by Nrf2 is important for the cellular adaptive respo
The target of rapamycin (TOR) pathway is a major nutrient-sensing pathway that, when genetically downregulated, incre
The fungal aging model <i>Podospira anserina</i> contains three superoxide dismutases (SODs) in different cellular compartm
In a previous genetic screen for <i>Caenorhabditis elegans</i> mutants that survive in the presence of an antimetabolic drug, hem

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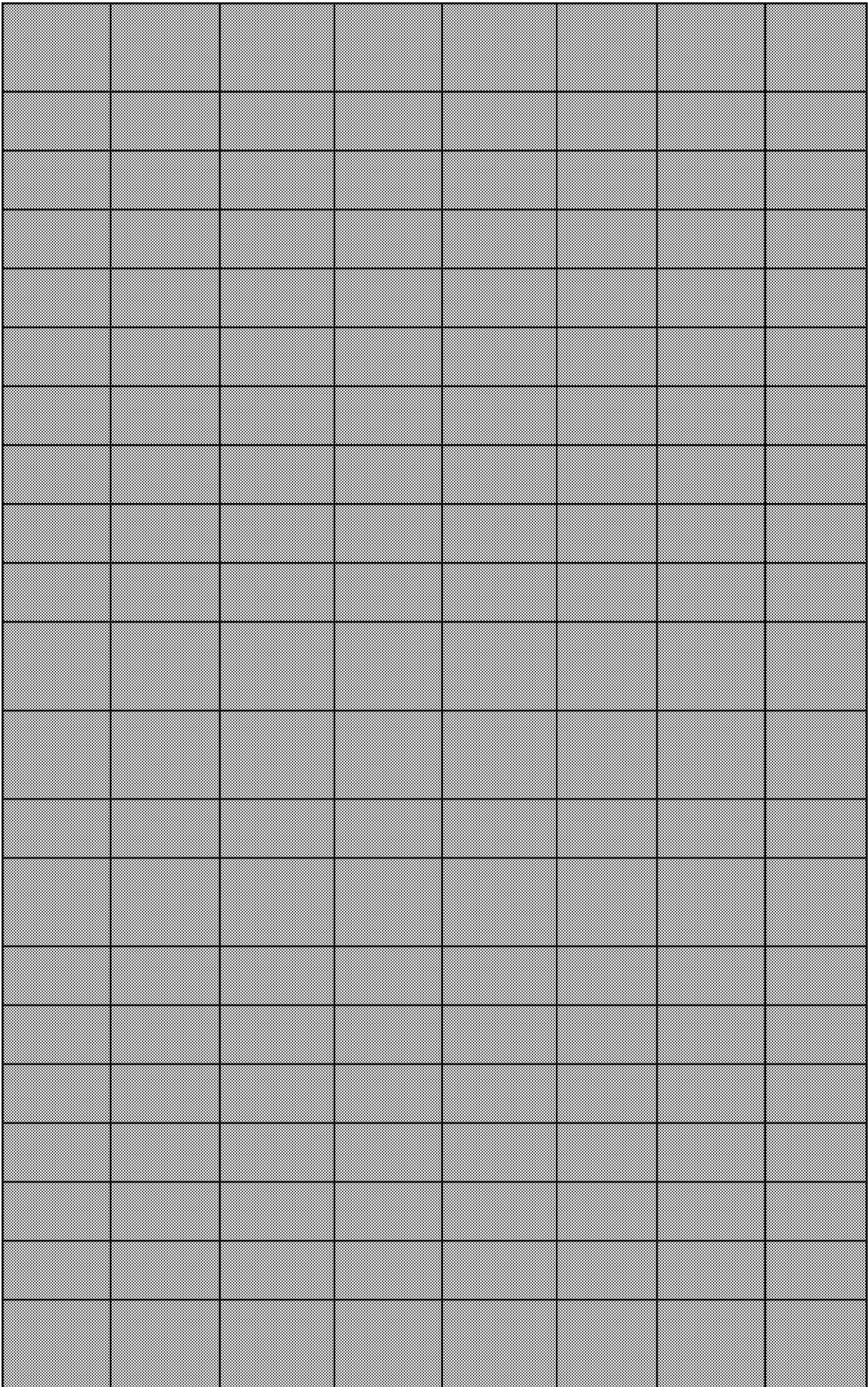
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In the filamentous fungus <i>Podospora anserina</i> , aging is systematically associated with mitochondrial DNA (mtDNA) instability
Children born to older parents tend to have lower intelligence and are at higher risk for disorders such as schizophrenia and autism
It is important to understand how age-related changes in intestinal stem cells (ISCs) may contribute to age-associated intestinal diseases
BACKGROUND: Electrophilic xenobiotics and endogenous products from oxidative stresses induce the glutathione S-transferase (GST) enzyme
Oxidative damage by reactive oxygen species is believed to be a contributor to the development of cancer and the physiological aging process
Oxidative and hypertrophic stresses contribute to the pathogenesis of heart failure. Insulin-like growth factor-1 (IGF-1) is a major anabolic growth factor
In <i>Caenorhabditis elegans</i> , longevity is increased by a partial loss-of-function mutation in the mitochondrial complex III subunit I gene
Mutations in the DJ-1 gene cause autosomal recessive, early-onset Parkinsonism. The DJ-1 protein exerts a protective role against oxidative stress
The nematode <i>Caenorhabditis elegans</i> has been used extensively to study responses to DNA damage. In contrast, little is known about the mechanisms of DNA damage response in this model organism
Methionine residues in protein can be oxidized by reactive oxygen species to generate methionine sulfoxide. Aerobic organisms have evolved mechanisms to protect against oxidative damage
Creatine (Cr), an ergogenic nutritional supplement is demonstrated to possess bioenergetic, antiexcitotoxic and antioxidant properties
Environmental exposure to the oxidant-producing herbicide, paraquat (PQ) (1,1'-dimethyl-4,4'-bipyridinium dichloride) has been associated with Parkinson's disease
This group has invented a novel deuterohemin containing peptide deuterohemin-AlaHisThrValGluLys (DhHP-6), which has been shown to protect against oxidative stress
Age is a major risk factor for heart disease, and cardiac aging is characterized by elevated mitochondrial reactive oxygen species production
Overexpression of thioredoxin (TRX) confers oxidative stress resistance and extends lifespan in mammals and insects. However, the mechanism of TRX action is unclear
Electrolyzed reduced water (ERW) has attracted much attention because of its therapeutic effects. In the present study, a rat model of oxidative stress was used to evaluate the effects of ERW
DDS, 4,4'-diaminodiphenylsulfone, is the most common drug prescribed to treat Hansen disease patients. In addition to its antimicrobial activity, DDS has been shown to have anti-inflammatory effects
The requirement of aerobic organisms to control damage caused by reactive oxygen species has led to the evolution of thiol-based antioxidant systems
A major cause of aging and numerous diseases is thought to be cumulative oxidative stress, resulting from the production of reactive oxygen species
Poly(ADP-ribose) polymerases (PARPs) are a diverse group of proteins present in all multicellular eukaryotes. They catalyze the formation of poly(ADP-ribose) (PAR) chains
To investigate the in vivo functions of normal prion protein (PrP) in <i>Drosophila</i> , we utilized characterized transgenic flies expressing different levels of PrP

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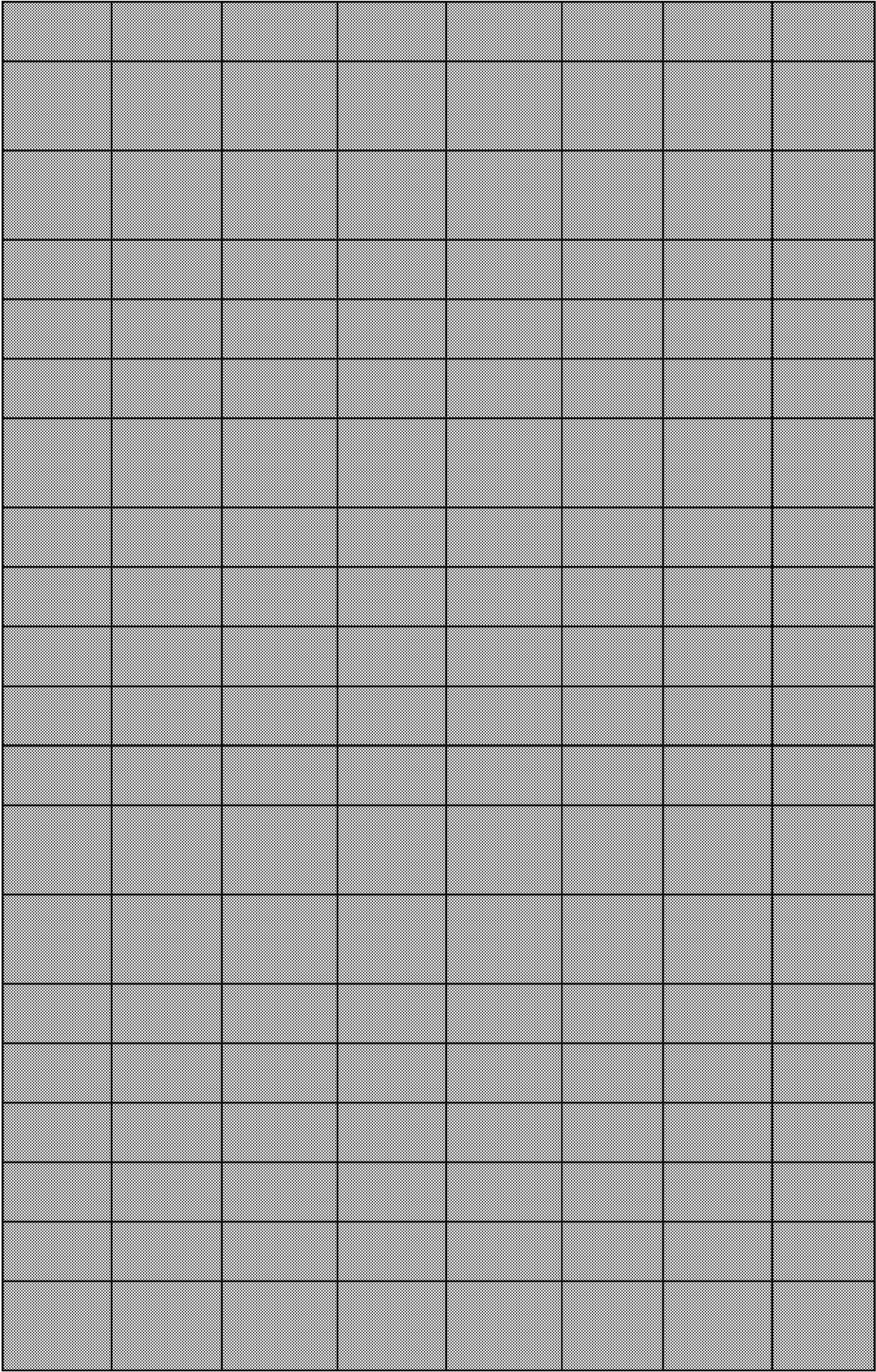
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The nuo-6 and isp-1 genes of <i>C. elegans</i> encode, respectively, subunits of complex I and III of the mitochondrial respiratory chain.
The discovery that in invertebrates, disruption of the insulin/insulin-like growth factor (IGF)-1 pathway extends life span.
Previous studies have shown that polyphenols might be potent neuroprotective agents in <i>Drosophila melanogaster</i> , a valuable model organism for studying neurodegeneration.
The insulin/insulin-like growth factor-like signaling (IIS) pathway in metazoans has evolutionarily conserved roles in growth and development.
Spinal cerebellar ataxia type 12 (SCA12) has been attributed to the elevated expression of ppp2r2b. To better elucidate the pathogenesis of SCA12, we used <i>Drosophila melanogaster</i> as a model organism.
<i>Drosophila melanogaster</i> is ideal for studying lifespan modulated by dietary restriction (DR) and oxidative stress, and also for studying the role of insulin-like growth factor (IGF) signaling in lifespan.
Studies have suggested that neuronal loss in Parkinson's disease (PD) could be related to the pacemaker activity of the suprachiasmatic nucleus (SCN).
How does brain coordinate physiological and behavioral responses to achieve survival in adverse environment is intriguing.
Severe hypoxia can lead to injury and mortality in vertebrate or invertebrate organisms. Our research is focused on understanding the molecular mechanisms underlying hypoxia tolerance.
Recent findings indicate that perturbations of the mitochondrial electron transport chain (METC) can cause extended longevity in <i>Drosophila melanogaster</i> .
Electrolyzed reduced water (ERW) contains a large amount of molecular hydrogen and a small amount of Pt nanoparticles, which may be used for various applications.
OBJECTIVES: Ferulsinaic acid is the first member of a new rearranged class of sesquiterpene coumarins of the genus <i>Ferula</i> .
Here we selected HgCl ₂ to investigate the mechanism of Hg toxicity on reproduction in hermaphrodite nematodes. According to our previous studies, HgCl ₂ is a potent inhibitor of reproduction in <i>C. elegans</i> .
8-oxo-dGTP is generated in the nucleotide pool by direct oxidation of dGTP or phosphorylation of 8-oxo-dGDP. It can be involved in various biological processes.
Flavonoids are a family of antioxidants that are widely represented in fruits, vegetables, dry legumes, and chocolate, as well as in various medicinal plants.
Paraquat (PQ) is widely used in the laboratory to induce in vivo oxidative stress, particularly in the fruit fly, <i>Drosophila melanogaster</i> .
<i>Rosa damascena</i> , or Damask rose, is a rose hybrid commonly harvested for rose oil used in perfumery and for rose water.
Compounds that delay aging in model organisms may be of significant interest to antiaging medicine, since these substances may have potential for human health.
BACKGROUND: Wood vinegar (WV), a byproduct from the charcoal production process, has been reported to have excellent antioxidant activity.
The evolution of karyotypically stabilized short-lived (SL) and long-lived (LL) cytoraces in the laboratory have been established in <i>Drosophila melanogaster</i> .

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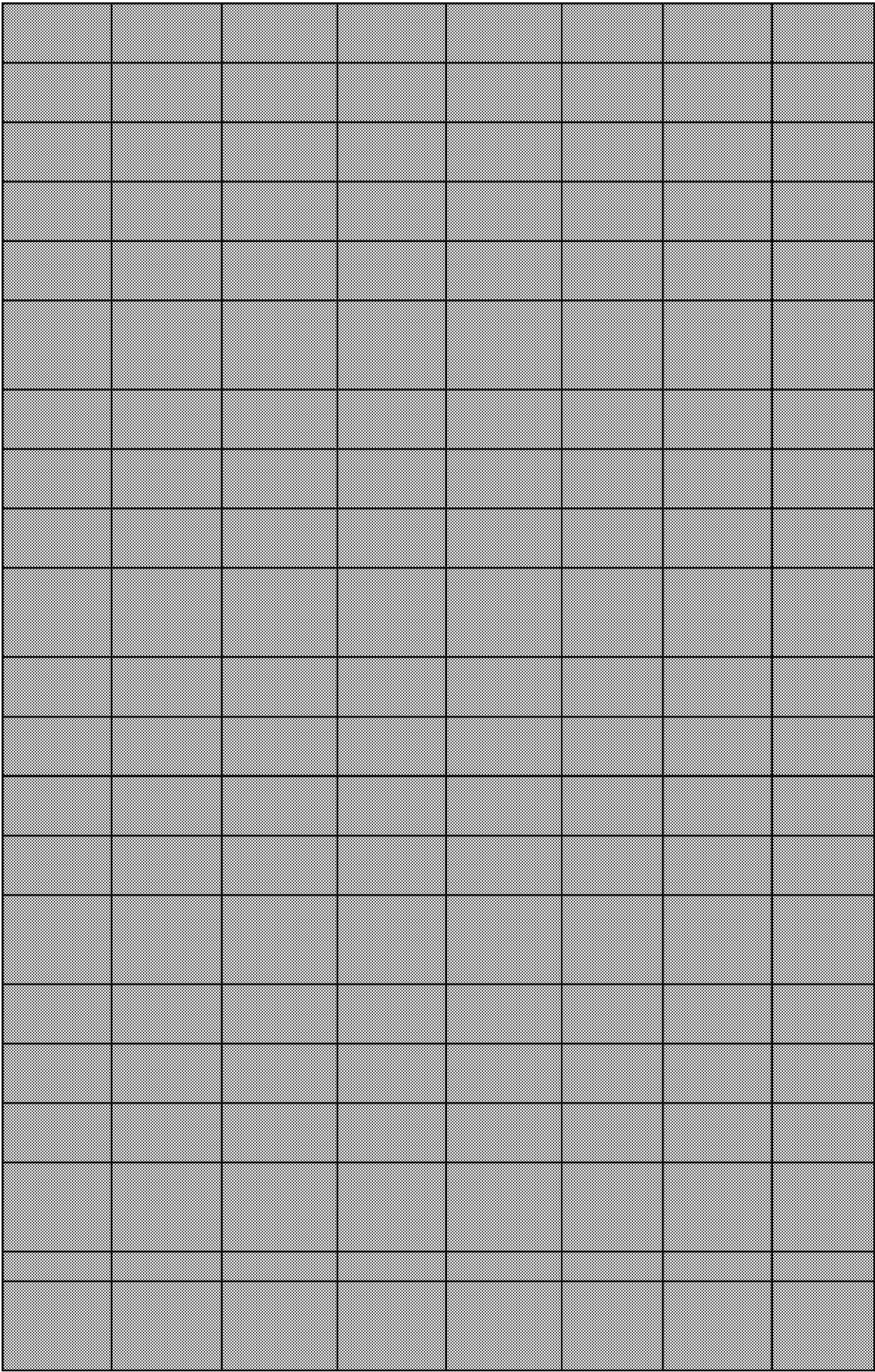
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Insulin signaling has a profound effect on longevity and the oxidative stress resistance of animals. Inhibition of insulin sig
Oxidative stress contributes to the pathogenesis of aging-associated heart failure. Among various signaling pathways me
Damage from reactive oxygen species (ROS) is thought to be a cause of organismal aging. Reactive oxygen species have a
Mutations in insulin/IGF-1 signaling pathway have been shown to lead to increased longevity in various invertebrate mo
Oxidative stress and mitochondrial function are at the core of many degenerative conditions. However, the interaction b
Prolonged hyperoxia exposure generates excessive reactive oxygen species (ROS) and potentially leads to oxidative injur
Iron is essential for organisms. It is mainly utilized in mitochondria for biosynthesis of iron-sulfur clusters, hemes and oth
Stem cells are tightly regulated by both intrinsic and extrinsic signals as well as the extracellular matrix (ECM) for tissue h
By linkage mapping of quantitative trait loci, we previously identified at least 11 natural genetic variants that significantly
Nematodes <i>Caenorhabditis elegans</i> is a widely used model for studying the genetic and molecular mechanisms that dete
PURPOSE: Compounds that delay aging in model organisms may be of significant interest to anti-aging medicine, since th
BACKGROUND: Aerobic organisms are susceptible to damage by reactive oxygen species. Oxidative stress resistance is a
The effect of water-soluble synthetic antioxidant TS-13 (sodium 3-(3'-tert-butyl-4'-hydroxyphenyl) propyl thiosulfonate) o
Previous work has shown that primary skin-derived fibroblasts from long-lived pituitary dwarf mutants resist the lethal e
Hypertrehalosemic hormone (HTH) is a peptide hormone that belongs to the adipokinetic hormone/red pigment concen
Free radicals or reactive oxygen species (ROS) are relatively short-lived and are difficult to measure directly; so indirect m
We have taken an engineering approach to extending the lifespan of <i>Caenorhabditis elegans</i> . Aging stands out as a comp
Classic galactosemia is a genetic disorder that results from profound loss of galactose-1P-uridylyltransferase (GALT). Affe
Oxidative stress remains one of the most well studied, albeit somewhat contentious, causes of age-related changes in hu
Black rice is rich in anthocyanin antioxidants. The present study investigated the lifespan-prolonging activity of black rice
Previous studies have shown that polyphenols might be potent neuroprotective agents in <i>Drosophila melanogaster</i> wild

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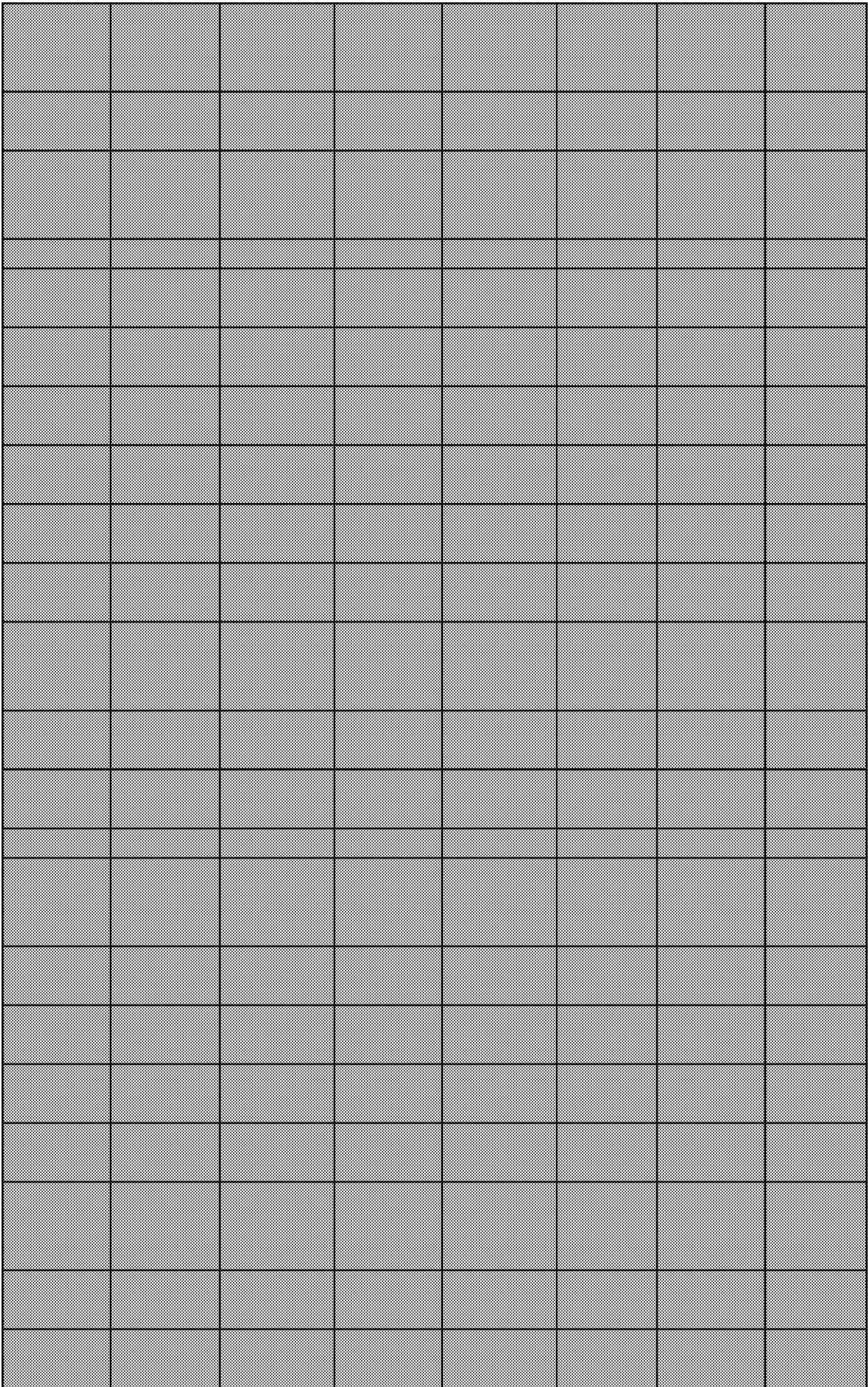
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The naturally occurring polyamine spermidine (Spd) has recently been shown to promote longevity across species in an a
There is a relationship between various cellular stress factors and aging. In earlier studies, we demonstrated that overex
A fundamental challenge facing physiological ecologists is to understand how variation in life history at the whole-organi
The present study investigated the anti-ageing activity of sesamin and its effect on gene expression of superoxide dismut
Mitochondrial dysfunction caused by protein aggregation has been shown to have an important role in neurological dise
The effects of hydrophilic synthetic antioxidant TC-13 sodium (3'-(3'-tert-butyl-4'-hydroxyphenyl)propylthiosulfonate on
Malate, the tricarboxylic acid (TCA) cycle metabolite, increased lifespan and thermotolerance in the nematode <i>C. elegans</i>
Globins constitute a superfamily of heme-binding proteins that is widely present in many species. There are 33 putative g
Statins are cholesterol-lowering drugs that inhibit 3-hydroxy-3-methyl-glutaryl-CoA (HMG-CoA) reductase, the rate-limiti
Paraquat (PQ; 1, 1'-dimethyl-4-4'-bipyridinium), an herbicide and model neurotoxicant, is identified to be one of the prim
More than 130 different mutations in the Cu/Zn superoxide dismutase (SOD1) gene have been associated with amyotrop
Melatonin (N-acetyl-5-methoxytryptamine) is a chemical mediator produced in the pineal gland and other sites in the bo
Heat shock proteins (HSPs) are molecular chaperones and have an important role in the refolding and degradation of mis
Dietary copper is essential for multicellular organisms. Copper is redox active and required as a cofactor for enzymes suc
Paraquat (PQ), a quaternary nitrogen herbicide, is commonly used as a pesticide despite of its high toxicity. Our study ev
Although realgar bioleaching solution (RBS) has been proved to be a potential candidate for cancer therapy, the mechani
Regular consumption of fruits and vegetables is associated with reduced risk of age-related functional decline and chroni
Growth hormone (GH) and insulin-like growth factor (IGF) signaling regulates lifespan in mice. The modulating effects of
LEC-1 is a major galectin in <i>Caenorhabditis elegans</i> and contains two carbohydrate recognition domains (CRDs), N-CRD at
Pantothenate Kinase-Associated Neurodegeneration (PKAN) is a neurodegenerative disorder with a poorly understood m
XPC is one of the key DNA damage recognition proteins in the global genome repair route of the nucleotide excision repa
AIMS: To investigate the role of endogenous hydrogen sulfide (H ₂ S) in the control of aging and healthspan of <i>Caenorhab</i>



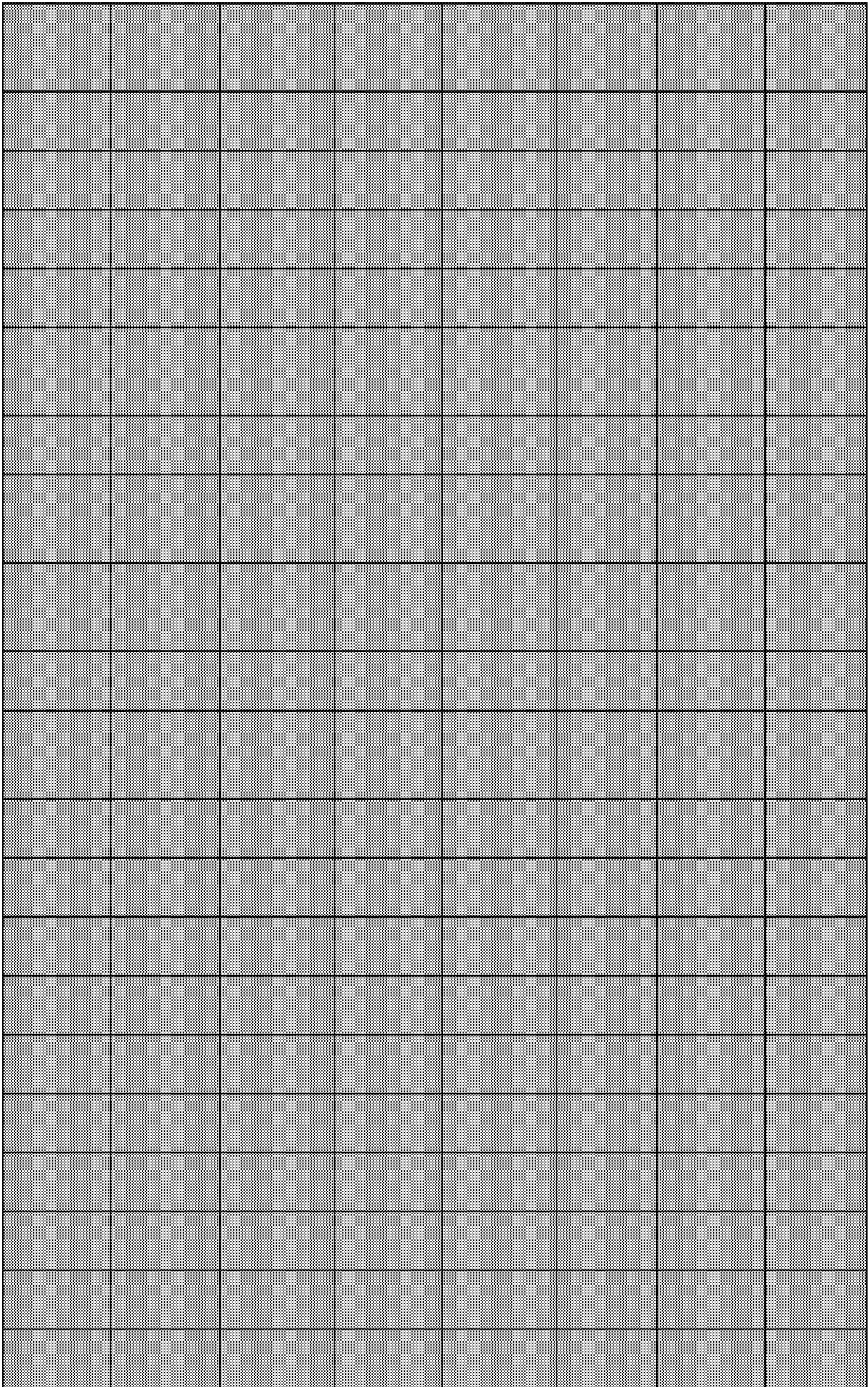
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In this paper, we have demonstrated for the first time, the antioxidant and neuroprotective effects of <i>Decalepis hamiltonii</i>
Fibroblasts from long-lived mutant mice show diminished phosphorylation of the stress-activated protein kinases ERK1/2
We investigated the anti-aging effects of <i>Ludwigia octovalvis</i> (Jacq.) P. H. Raven (Onagraceae), an extract of which is widely distributed
Lipocalins are small extracellular proteins mostly described as lipid carriers. The <i>Drosophila</i> lipocalin NLaz (neural Lazarillo)
Micronutrients are essential for normal metabolic processes during early development. Specifically, it has been suggested that
Understanding the mechanism(s) by which dopaminergic (DAergic) neurons are eroded in Parkinson's disease (PD) is critical to
Here in this study, we isolated 1,2,3,4,6-penta-O-galloyl-beta-D-glucose (PGG) from <i>Curcuma longa</i> L. and elucidated the
8-Oxo-dGTP, an oxidised form of dGTP generated in the nucleotide pool, can be incorporated opposite adenine or cytosine
<i>Saccharomyces cerevisiae</i> Nar1p is an essential Fe/S protein that exhibits striking similarity to bacterial iron-only hydrogenase
PURPOSE: Nutritional control has been proposed as a potential therapy for slowing the senescence of immune function and
We describe herein our results on the synthesis and biological properties in <i>Caenorhabditis elegans</i> of a range of 4-organotin
Environmental factors have been implicated in the etiology of a number of neurodegenerative diseases, including amyotrophic lateral sclerosis
Human oxidation resistance 1 (OXR1) functions in protection against oxidative damage and its homologs are highly conserved
Disorders arising from impaired assembly of succinate dehydrogenase (SDH) result in a myriad of pathologies, consistent with
In man, COX (cytochrome c oxidase) deficiency is reported to be related to mutation of the SCO2 (synthesis of cytochrome c oxidase)
Species differ greatly in their rates of aging. Among mammalian species life span ranges from 2 to over 60 years. Here, we
Long-term exposure to environmental oxidative stressors, like the herbicide paraquat (PQ), has been linked to the development of
Longevity is correlated with stress resistance in many animal models. However, previous efforts through the boosting of
Mild inhibition of mitochondrial respiration extends the lifespan of many species. In <i>Caenorhabditis elegans</i> , reactive oxygen
Paraquat (PQ) exposure causes degeneration of the dopaminergic neurons in an exposed organism while altered metabolic
For screening anti-aging samples from marine natural products, K6001 yeast strain was employed as a bioassay system. The

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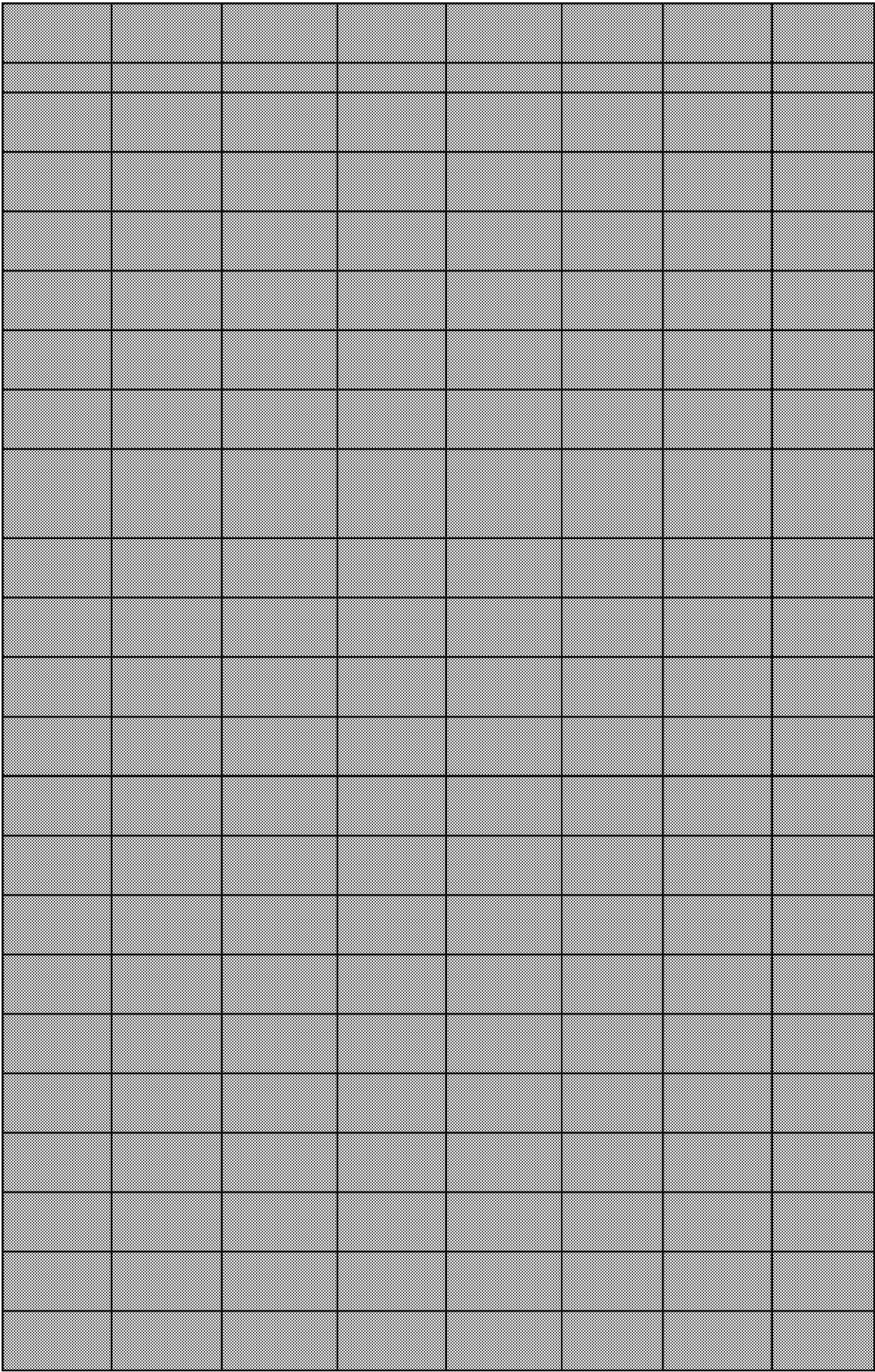
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Cinnamon is a spice commonly used worldwide to flavor desserts, fruits, cereals, breads, and meats. Numerous health be
MRP4 (multidrug resistance-associated protein 4) is a member of the MRP/ABCC subfamily of ATP-binding cassette (ABC
We investigated the effect of melatonin (MEL) in the activities of cytosolic superoxide dismutase (SOD) and catalase as w
Exploring innovative ways to ensure healthy aging of populations is a pre-requisite to contain rising healthcare costs. Scie
The impact of mutations in four essential genes involved in dopamine (DA) synthesis and transport on longevity, motor b
l-Ascorbate, commonly known as vitamin C, serves as an antioxidant and cofactor essential for many biological processes
Reactive oxygen species (ROS) are highly reactive, oxygen-containing molecules that can cause molecular damage within
Adverse reports on the exposure of organisms to dichlorvos (DDVP; an organophosphate insecticide) necessitate studies
We recently reported that the T-box transcription factor midline (mid) functions within the Notch-Delta signaling pathwa
Understanding the effects of strong static magnetic fields (SMFs) on living organisms is significant in health risk assessme
There are several reports on herbicide paraquat (PQ)-induced Parkinsonian-like pathology in different animal models, inc
BACKGROUND: Bacopa monnieri (L.) Pennell, commonly known as Brahmi is an important medicinal plant traditionally u
We delineated the mechanism regulating the inhibition of centrosome amplification by metformin in Drosophila intestin
Oxidative stress, which is the result of an imbalance between production and detoxification of reactive oxygen species, is
Echinacoside (ECH), a natural polyphenolic compound, has been reported to possess important pharmacological activitie
OBJECTIVE: This study was performed to determine the effect of N-acetyl-L-cysteine, a modified sulfur-containing amino
Troyer syndrome is caused by a mutation in the SPG20 gene, which results in complete loss of expression of the protein s
Reactive oxygen species (ROS) generated during energy production processes are a major cause of oxidative DNA damag
We previously reported that a urate-null strain of Drosophila is hypersensitive to cigarette smoke (CS), and we suggested
Cranberry is an excellent source of dietary antioxidants. The present study investigated the effect of cranberry anthocyar
This study investigated the effect of Cordyceps sinensis oral liquid (CSOL) on the lifespan of Drosophila melanogaster (fru
The pharmacological activation of stress-defense mechanisms is one of the perspective ways to increase human lifespan.

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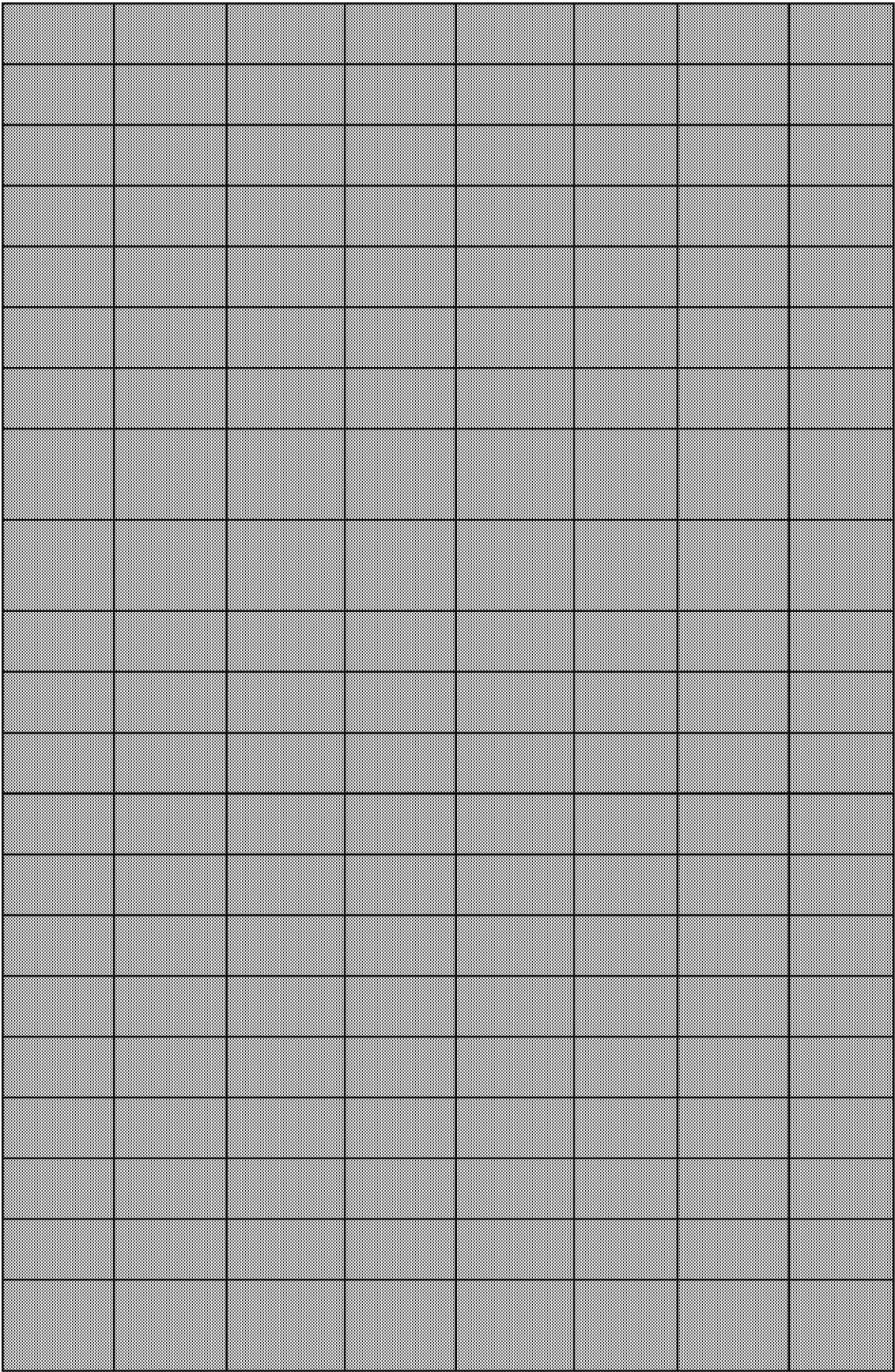
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Diethyl maleate (DEM) is a thiol-depleting agent frequently employed in cell culture analyses. Here, we investigated the
ETHNOPHARMACOLOGICAL RELEVANCE: Glycyrrhizae radix (GR) is a medicinal herb extensively used in traditional Chinese
Phenotype-driven genetic screens in mice is a powerful technique to uncover gene functions, but are often hampered by
In prior studies, we determined that the moderate overexpression of the <i>Drosophila</i> endoplasmic reticulum (ER)-localize
Evidence suggests that saffron and its major bioactives exhibit significant neuromodulatory effects in various animal mod
Ubiquitin-related modifier 1 (Urm1) is a ubiquitin-like molecule (UBL) with the dual capacity to act both as a sulphur carr
Tsai Tai is one of the most widely consumed Brassica vegetables in Asian countries because of its good taste and its nutri
We characterized, for the first time, the quality and identity of Brazilian Pampa biome honey and its antioxidant properti
Since excessive reactive oxygen species (ROS) is known to be associated with aging and age-related diseases, strategies r
The evolution of symbioses along the continuum between parasitism and mutualism can be influenced by the oxidative h
Almost all insects are equipped with a tracheal system, which appears to be sufficient for O ₂ supply even in phases of hig
In <i>Caenorhabditis elegans</i> , removing germ cells slows aging and extends life. Here we show that transcription factors tha
It has long been recognized that simultaneous exposure to heat stress and oxidative stress shows a synergistic interactio
Epimedium has been traditionally used to treat a variety of medical conditions, including neurological disorders. In this s
In vitro antioxidant virtue and life-prolonging effect of phycoerythrin (PE; a pigment protein isolated from <i>Phormidium</i> sp
The role of adipokinetic hormone (AKH) and adenosine in the anti-stress response was studied in <i>Drosophila melanogast</i>
CONTEXT: <i>Croton campestris</i> A.St.-Hil. (Euphorbiaceae) is a species native to Northeast Brazil used by traditional commu
Oxidative stress can lead to premature aging symptoms and cause acute mortality at higher doses in a range of organism
As a potent antioxidant in human diet, astaxanthin (AST) may play important roles in alleviating oxidative stress-driven a
We review the data which led us to conclude that the antioxidant defense system (ADS) is responsible for the extended l
pre-exposure of wild-type <i>Caenorhabditis elegans</i> to oxygen conferred a protective effect against the lethality imposed b

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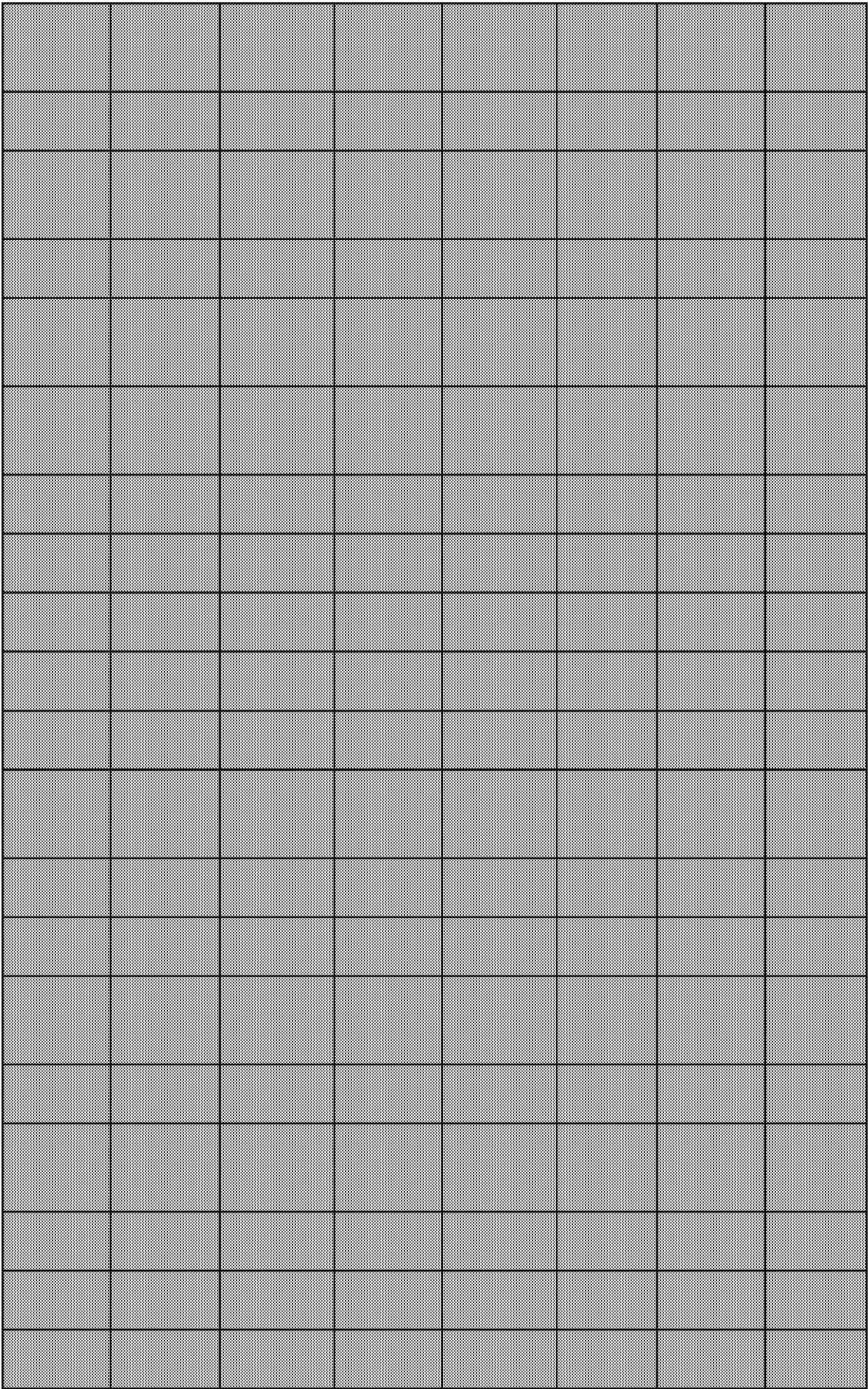
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Longevity is regulated by the daf-2 gene network in <i>Caenorhabditis elegans</i> . Mutations in the daf-2 gene, which encodes
The purpose of this study was to understand the nature of the biochemical and physiological variations between genetic
The aim of the present study was to investigate whether the resistance of beech foliage (<i>Fagus sylvatica</i>) against oxidativ
The <i>Drosophila</i> Turandot A (TotA) gene was recently shown to encode a stress-induced humoral factor which gives increa
Different types of mutations and DNA-damage profiles induced by near-UV radiation and the superoxide anion (O ⁻²) indi
According to the free radical theory of aging, free radicals are involved in the production of changes in cellular metabolis
Dietary restriction (DR) is the most consistent means of extending life span throughout the animal kingdom. Multiple me
Mutations that extend nematode longevity by interference with IGF-I/insulin sensing pathways also lead to resistance to
Catalase represents one of the key antioxidant enzymes (AOE) in the metabolism of oxygen free radicals. A comprehensi
The fruit fly, <i>Drosophila melanogaster</i> , is an excellent model system for the study of complex biological processes includi
Long-lived organisms tend to be more resistant to various forms of environmental stress. An example is the <i>Drosophila</i> lo
Repeated alcohol consumption leads to the development of tolerance, simply defined as an acquired resistance to the ph
Mitochondrial function depends on iron-containing enzymes and proteins, whose maturation requires available iron for l
Among various other mechanisms, genetic differences in the production of reactive oxygen species are thought to under
Menin is a tumor suppressor required to prevent multiple endocrine neoplasia in humans. Mammalian menin protein is
There is now consensus that the accumulation of oxidatively modified proteins is cytotoxic and causally related to severa
Studies of feeding behavior in genetically tractable invertebrate model systems have been limited by the lack of proper r

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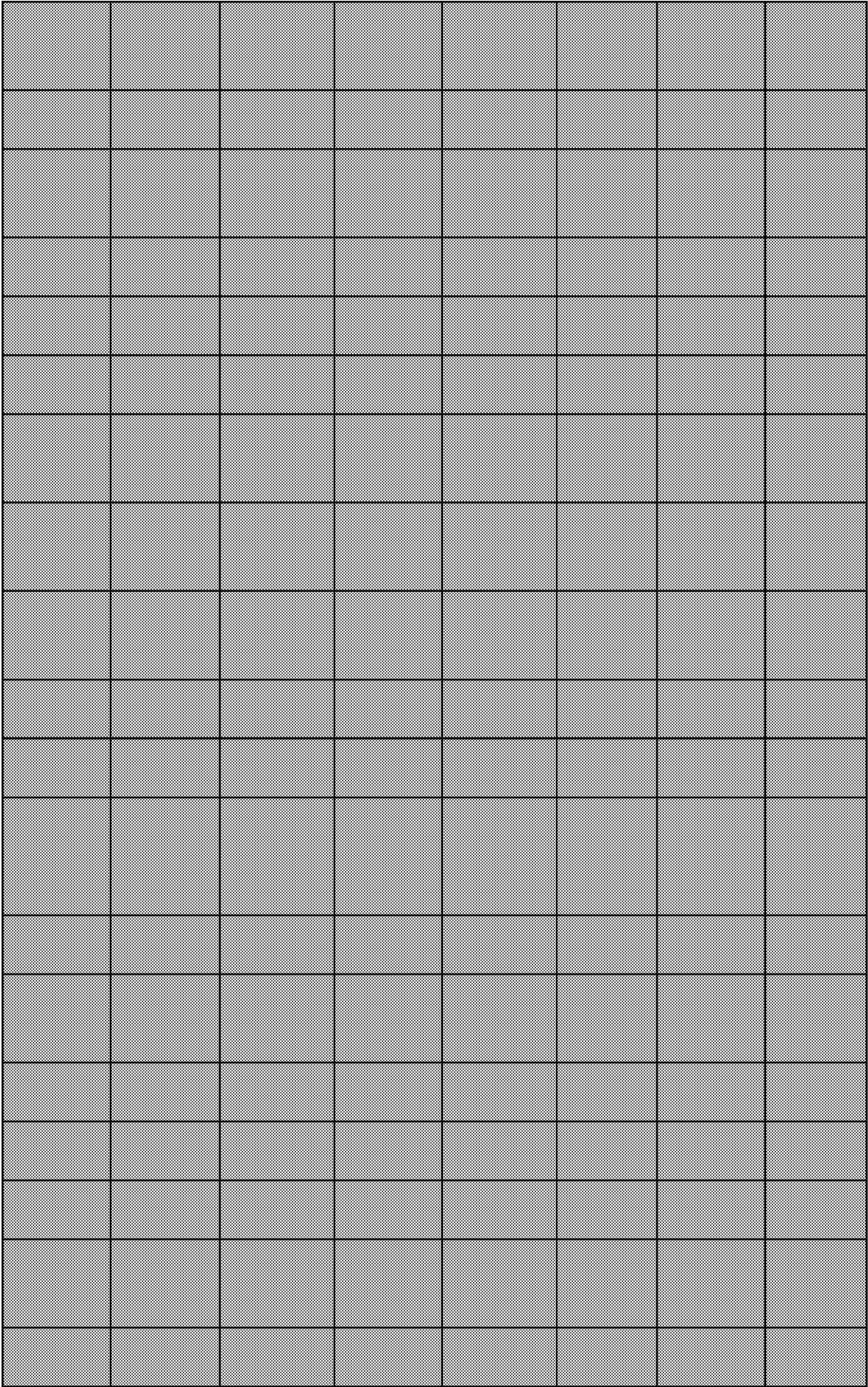
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Fibroblasts from long-lived mutant mice are resistant to many forms of lethal injury as well as to the metabolic effects of
This study was designed to determine the minimum effective concentration of paraquat that modulated the expression of
The life span alteration after gamma-irradiation and/or paraquat treatment in <i>Drosophila</i> in wild type strain Canton-S and
To probe the connection between longevity and stress resistance, we compared the sensitivity of Ames long-lived dwarf
The antioxidative activities in natto water extract were studied in vivo with low cost and quick assay systems (A and 13) of
Energy homeostasis and stress resistance are closely linked on aging and longevity. AMPK (AMP-activated protein kinase)
The mechanisms underlying neuron death in Parkinson's disease are unknown, but both genetic defects and environmental
P>1 Extension of life span by food shortage, often mimicked by calorie restriction (CR) in the laboratory, is one of the most
Apple polyphenols (AP) are an excellent source of dietary antioxidants. The present study investigated the effect of AP on
In the present study, the ameliorative effect of a bischalcone (2E,5E)-2,5-bis(3-methoxy-4-hydroxy-benzylidene) cycloper
Evolutionary senescence theory postulates that aging results from the declining force of natural selection with increasing
Nematode <i>Caenorhabditis elegans</i> is a widely used model for studying genetic and molecular mechanisms of lifespan reg
<i>Mucuna pruriens</i> (MP) is a legume with seeds that contain substantial amounts of 3, 4-dihydroxy-L-phenylalanine (L-DOP
Electrolysis of water produces reduced water at the cathode and oxidized water at the anode. Electrolyzed-reduced water
Chronic hypoxia (CH) occurs under certain physiological or pathological conditions, including in people who reside at high
Environmental toxicants like paraquat (PQ) induce the increase of oxidative stress, which is likely to lead to various neuro
Lactobacilli and bifidobacteria are probiotic bacteria that modify host defense systems and have the ability to extend the

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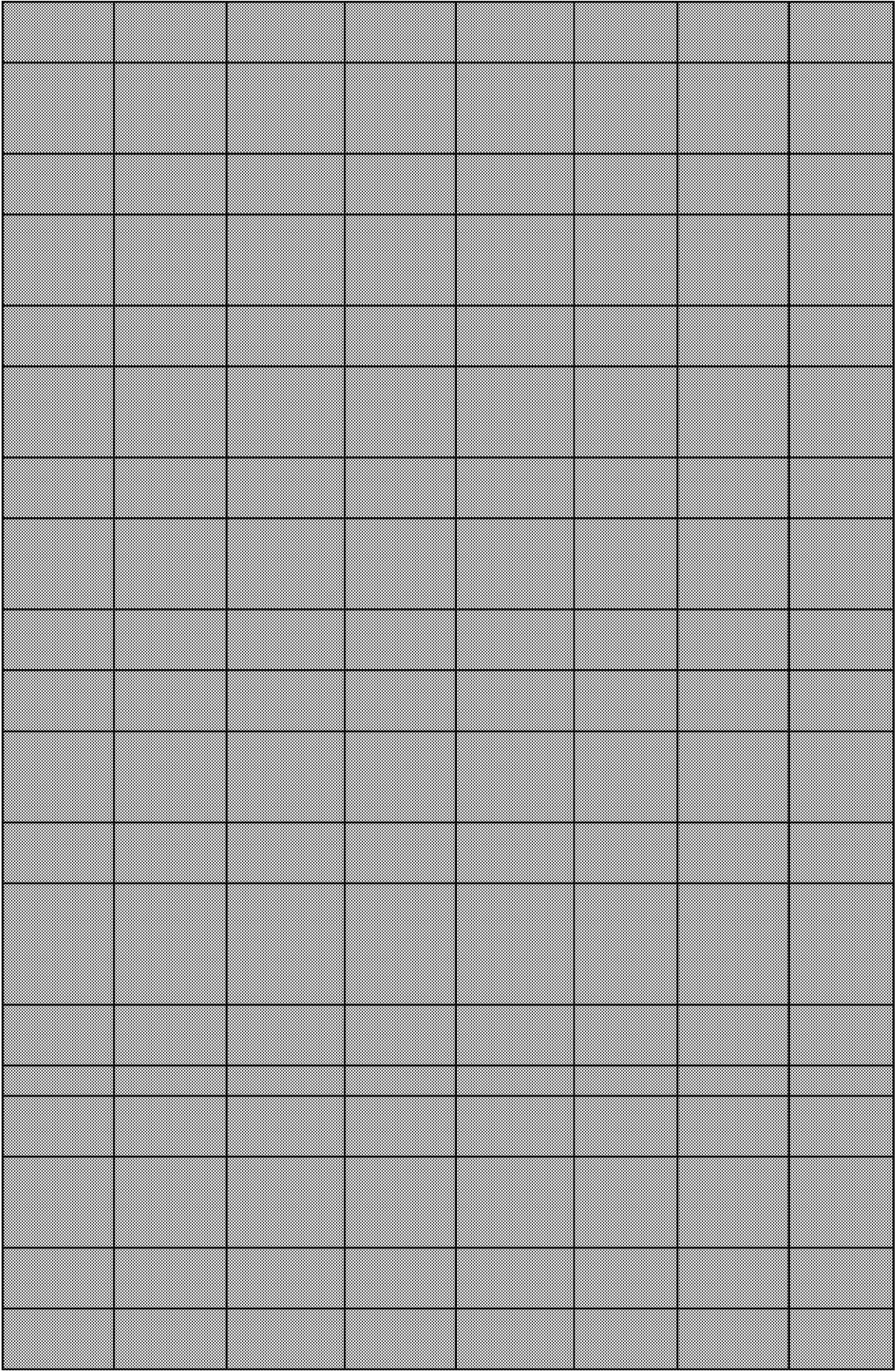
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In the present study we test whether variation in resistance to paraquat (PQ), a free radical generator, correlates with va
Previously, we have pioneered <i>Drosophila melanogaster</i> as a reductionist model to show that 1-octen-3-ol, a musty-smel
Background: The oxidative stress theory of life-history tradeoffs states that oxidative stress caused by damaging free radi
Recent studies have shown that phenolic compounds present in yerba mate have antioxidant defense properties. To veri
Exposure to Paraquat and RNA interference knockdown of mitochondrial superoxide dismutase (Sod2) are known to resu
The guava fruit, <i>Psidium guajava</i> var. <i>pomifera</i> (Myrtaceae family), is a native plant from South America. Its leaves and fr
In the present study, we cloned and sequenced the mRNAs of the Sod3 [extracellular Cu Zn SOD (superoxide dismutase)]
Quercetin-3-O-alpha-L-rhamnopyranosyl(1 -> 2)-O-alpha-L-rhamnopyranoside (QDR) was isolated from the remaining un
Aging is a process of progressive decline in physiological functions resulting in increased vulnerability to diseases and dea
<i>Eugenia uniflora</i> L. (Myrtaceae family), also known as "pitanga", is a tree species widely used in popular medicine. Despit
The multicellular model organism <i>Caenorhabditis elegans</i> is a small nematode of approximately 1 mm in size in adulthoo
<i>Enterococcus faecalis</i> infection can cause serious diseases including cancer development. Recently it has been reported t
Treatment of young spruces with the herbicides aminotriazole and paraquat leads to oxidative stress resulting in a drasti
We have performed a comparative analysis of the effects of age of reproduction on the biochemical (protein, lipid, and g
Age-associated changes in the induction of heme oxygenase (HO-1) and heat shock protein 70 (HSP70) after the administ
MutT enzymes prevent DNA damage by hydrolysis of 8-oxodGTP, an oxidized substrate for DNA synthesis and antimutag

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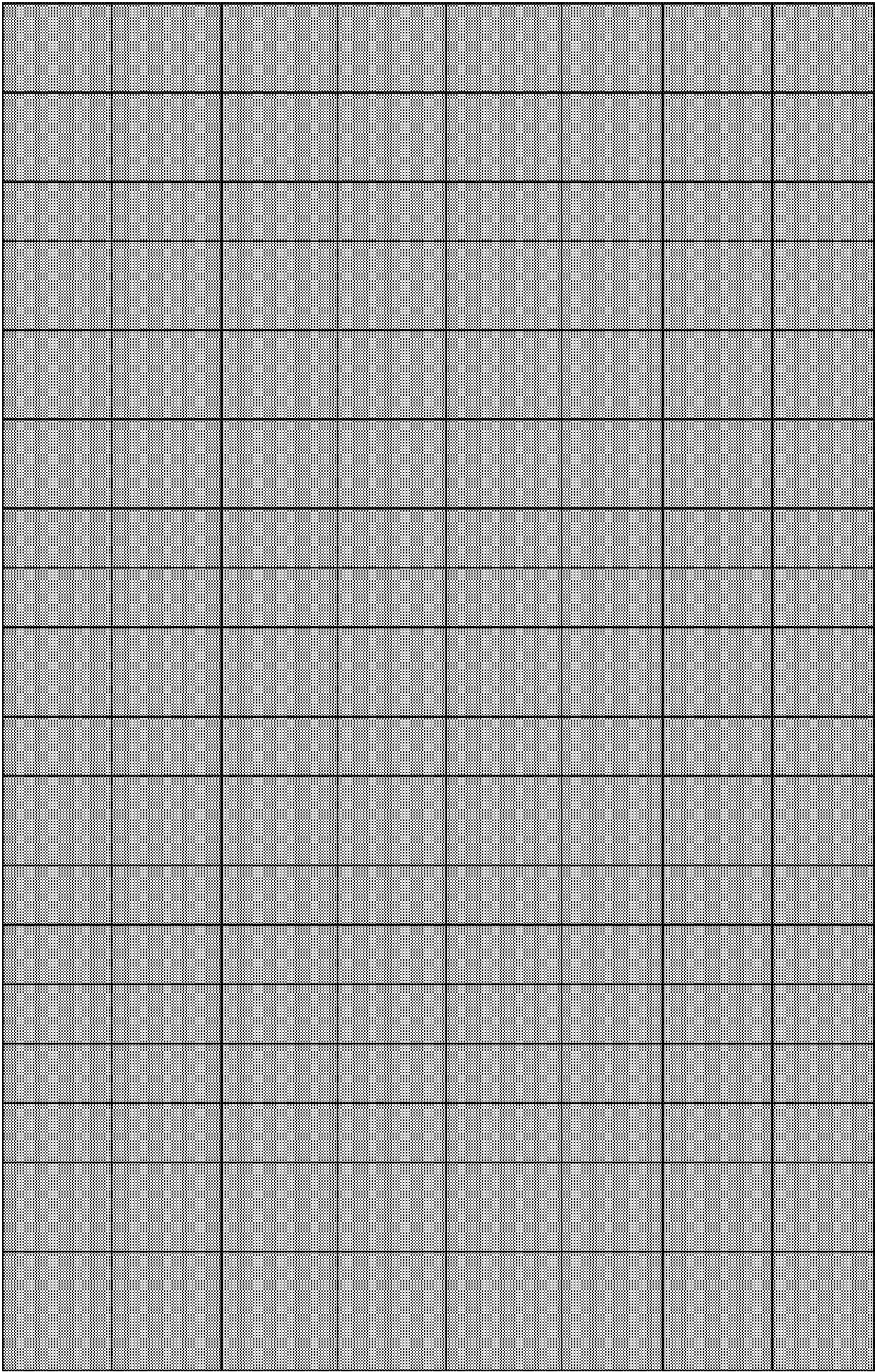
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Oxidation of lipids and proteins is not only a manifestation of aged skin but also potentially causative for age-related aest
Previous studies have shown that dermal fibroblast cell lines derived from young adult mice of the long-lived Snell dwarf
Fatty acids are the major components of the phospholipid bilayer and are involved in several functions of cell membrane
A family of antioxidant proteins, the peroxiredoxins, serve two purposes, detoxification of reactive oxygen species and ce
The mitochondrial genome (mtDNA) is intimately linked to cellular and organismal health, as demonstrated by the fact th
Summary Altering the redox state of cysteine residues on protein surfaces is an important response to environmental ch
This study investigated the resistance to stress as a function of age in Drosophila melanogaster overexpressing Hsp70. Th
Oxidatively damaged bases in DNA cause many types of deleterious effects. The main enzyme that removes such lesions
Blueberry possesses greater antioxidant capacity than most other fruits and vegetables. The present study investigated t
AbstractIntroduction Knowledge about the pharmacological properties of traditional TCM formulas is scarce as is their in
Cockayne Syndrome (CS) is a rare human genetic disorder characterized by progressive multisystem degeneration and se
Experimental studies to observe the effects of environmental factors such as rearing conditions, nutritional status and ex
Lutein is one of the major carotenoids in most fruits and vegetables. The effect of lutein on the lifespan of Drosophila me
The membrane-bound hydrogenase (EC class 1.12) of aerobically grown Escherichia coli cells was solubilized by treatmer
Rabbit bile was examined for changes in composition induced by paraquat. Paraquat was administered intraperitoneally
Carbofuran and malathion, well known pesticides, and paraquat, a world widely used herbicide, were tested on acetylch

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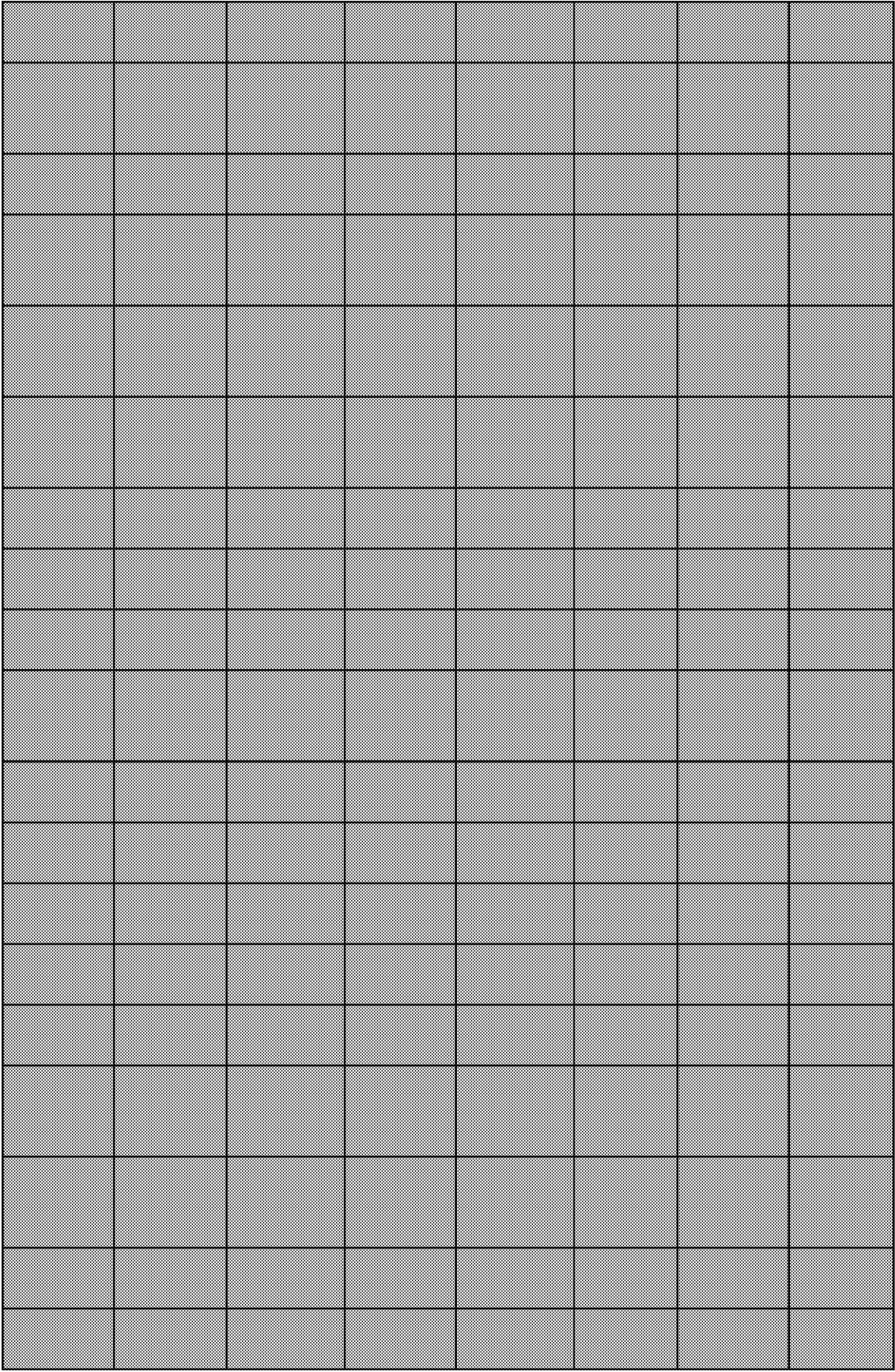
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To investigate the effect of 3,4-DL-dehydroproline (DHP) on paraquat (PQ)-induced pulmonary fibrosis in beagle dogs, 25
In order to evaluate the effect of paraquat on oxidative radical reactions in the lung, we studied MDA production and che
The current study designed to clarify the mechanism of paraquat-induced cytotoxicity and protective effects of Atorvasta
Paraquat is a highly toxic herbicide that selectively accumulates in the lungs and causes pulmonary damage through the
We previously reported that a respiration-competent parent strain (K) of <i>Candida albicans</i> was more susceptible to the in
<i>Lactobacillus plantarum</i> is aerotolerant during log-phase growth on glucose, but is an obligate aerobe on polyols. Respira
The kinetic mechanism of the unidirectional H ₂ -oxidizing hydrogenase from soybean nodule bacteroids has been investig
Chromatophores prepared from <i>Chromatium</i> exhibit a light-dependent O ₂ uptake in the presence of reduced 2,6-dichlor
AIM: To evaluate the effects of aqueous extract of Salep on Paraquat-mediated liver injury. METHODS: In this experimen
Living cells are alive and have the butanol-producing ability but not much proliferation under nitrogen source-limited cor
The aim of this research is to develop an ultrasensitive time-resolved fluorescence immunoassay (TR-FIA) for herbicide d
The roles of superoxide and H ₂ O ₂ in the cytotoxicity of paraquat were assessed in Chinese hamster ovary cells. Neither c
Mutations of the insulin/IGF signaling (IIS) pathway extend <i>Drosophila</i> lifespan. Based on genetic epistasis analyses, this

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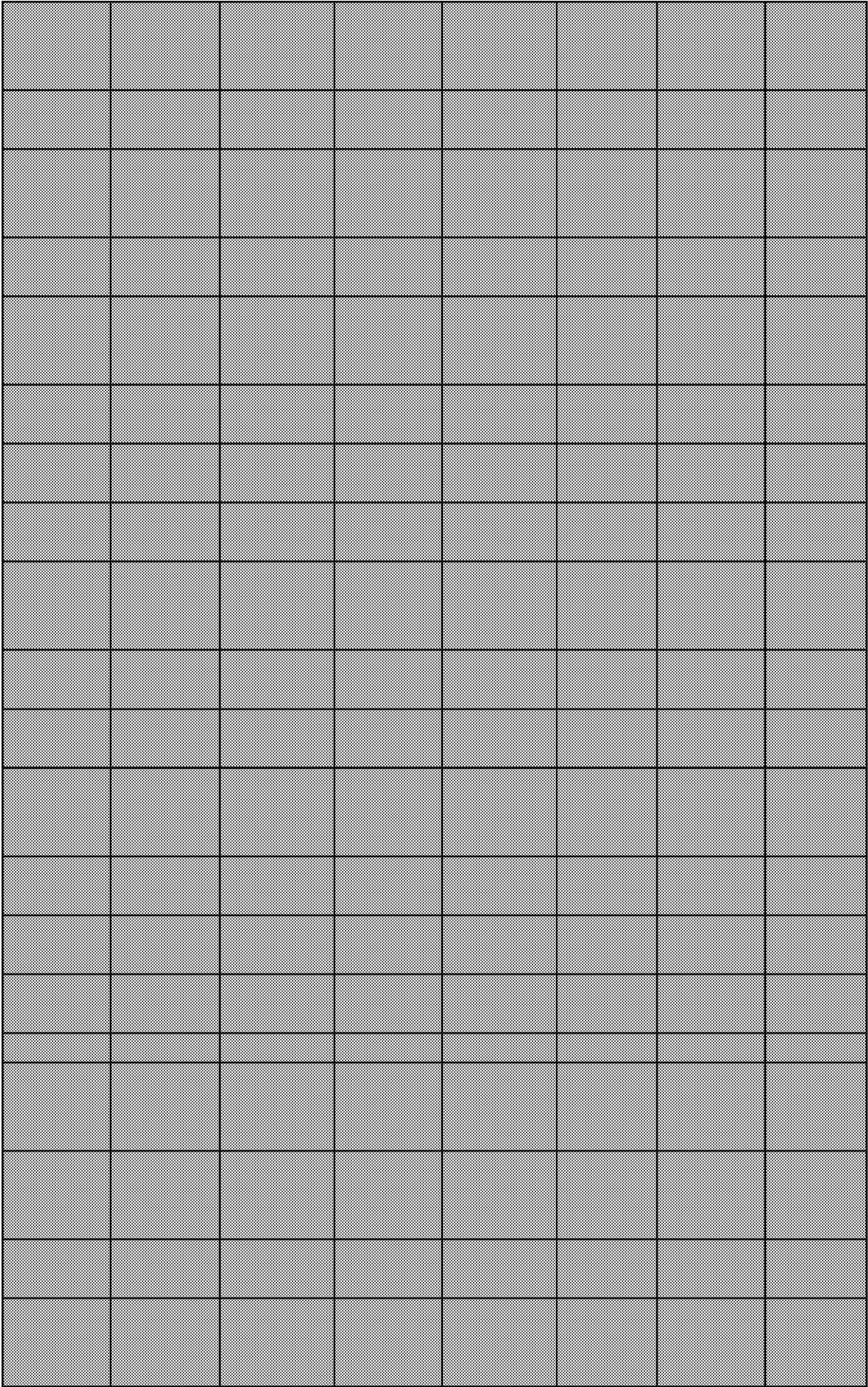
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Following administration of the LD50 or the LD100 of Gramoxon (PQ), the phospholipids (PL) of the lung, liver and kidney
The role of light is known to be important in the herbicidal action of paraquat, the active ingredient of Gramoxon. Experi
DNA damage in X-irradiated CHO cells was measured by alkaline filter elution and compared to fluorometric analysis of D
Frankliniella fusca (Hinds) naturally disperses from winter weeds to crops in spring, causing direct and indirect damage. F
The common view of photosystem I as the action site of catalase and ethanol at oxygen uptake in chloroplasts are based
The lack of superoxide dismutase and the consequent elevation of [O ₂ ⁻] imposes, on Escherichia coli, auxotrophies for br
The epidemiological impact of SOD2 imbalance on prostate cancer (PC) risk associated with genetic variations has previo
Yeast mutants deficient in activities of cytosolic superoxide dismutase and catalase A and T were exposed to four differer
The efficiency of dialysis methods a/o hemoperfusion in acute poisoning cannot be clinically estimated, because: a) Conc
BACKGROUND: SoxR and SoxS constitute an intracellular signal response system that rapidly detects changes in superoxi
Paraquat is a widely used herbicide which causes lung injury in animals and humans. To determine whether pulmonary e
BACKGROUND: Trends in rates of unintentional pesticide illnesses and injuries by type were estimated for the United Sta
Several reactions of the cytochrome P450 multi-step cycle have been studied by fast light activation combined with subz
We describe the rapid, large scale purification of Fab fragments from mouse monoclonal antibodies. Antibodies against t
Large-scale industrial use of chromium(VI) has resulted in widespread contamination with carcinogenic chromium(VI). TH
Paraquat induced the SOS response in Escherichia coli. This was measured in terms of acquired resistance towards UV let
Spin trapping, a sensitive and specific means of detecting free radicals, is optimally performed on cell suspensions. This n

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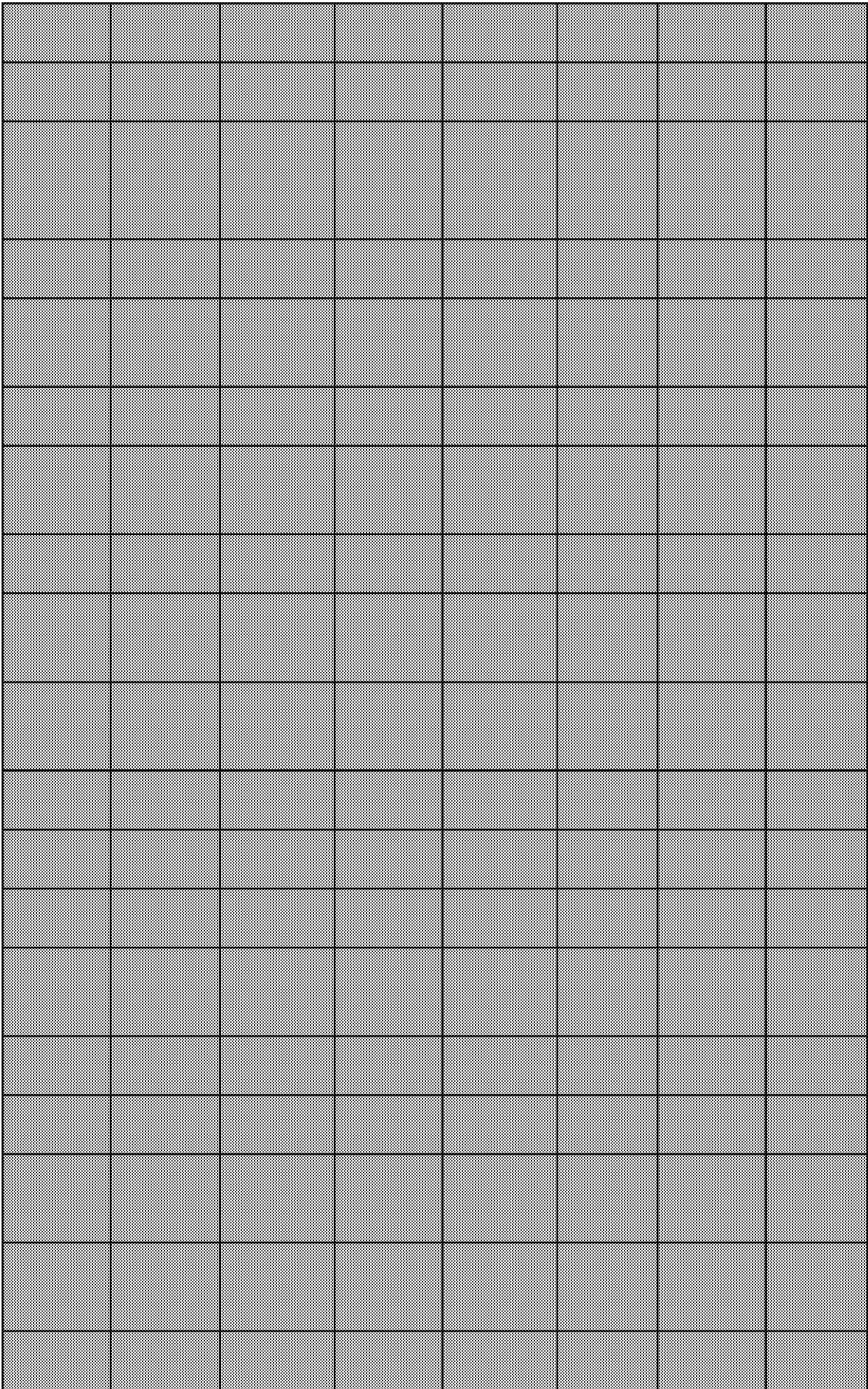
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In this study, we have shown that chickens, frogs, and toads are resistant to acute pulmonary injury by a variety of toxic a
The complex [Ru(bpy) ₂ (ttma)](+) (bpy = 2,2'-bipyridine; ttma = 3-hydroxy-2-methyl-thiopyran-4-thionate, 1, has previous
In spite of widespread interest in rotaxane-based molecular machines and materials, rotaxanes have not been attached d
Between January 1993 and July 1996, a total of 2827 intentional cases of poisoning were registered in the University Hos
Oxidant injury to the alveolar epithelium can be mediated by exposure to oxidant gases such as O ₂ at high concentration
We have previously described a secondary radical-trapping technique for the detection of in vivo hydroxyl radical genera
Light-emission of the perfused lung is induced by t-butyl hydroperoxide, giving chemiluminescence yields that oscillate b
The small GTPases of Rop/Rho family is central regulators of important cellular processes in plants. Tobacco small G prot
The increasing incidence of autism suggests a major environmental influence. Epidemiology has implicated many candid
Rhodocyclus gelatinosus 1 grows anaerobically in the dark at the expense of carbon monoxide. Topographical studies wit
Transport of paraquat (PQ), a cationic herbicide, was investigated in a proximal renal epithelial cell line, LLC-PK1. Collage
The NAC (NAM, ATAF1/2, CUC2) transcription factor gene family is plant-specific and plays diverse roles in development
The effects of paraquat (PQ) on the male reproductive system are unclear. In this study, male rats were divided into four
1. When negatively-charged membranes or particles are added to a solution containing 9-aminoacridine and only low co
During the growing season of 2002--2003, field and greenhouse experiments were conducted with the objective of evalu
Oxidation and reduction of methionine (Met) play important roles in scavenging reactive oxygen species (ROS) and signa
Salmonella typhimurium produces H ₂ S from thiosulfate or sulfite. The respective pathways for the two reductions must

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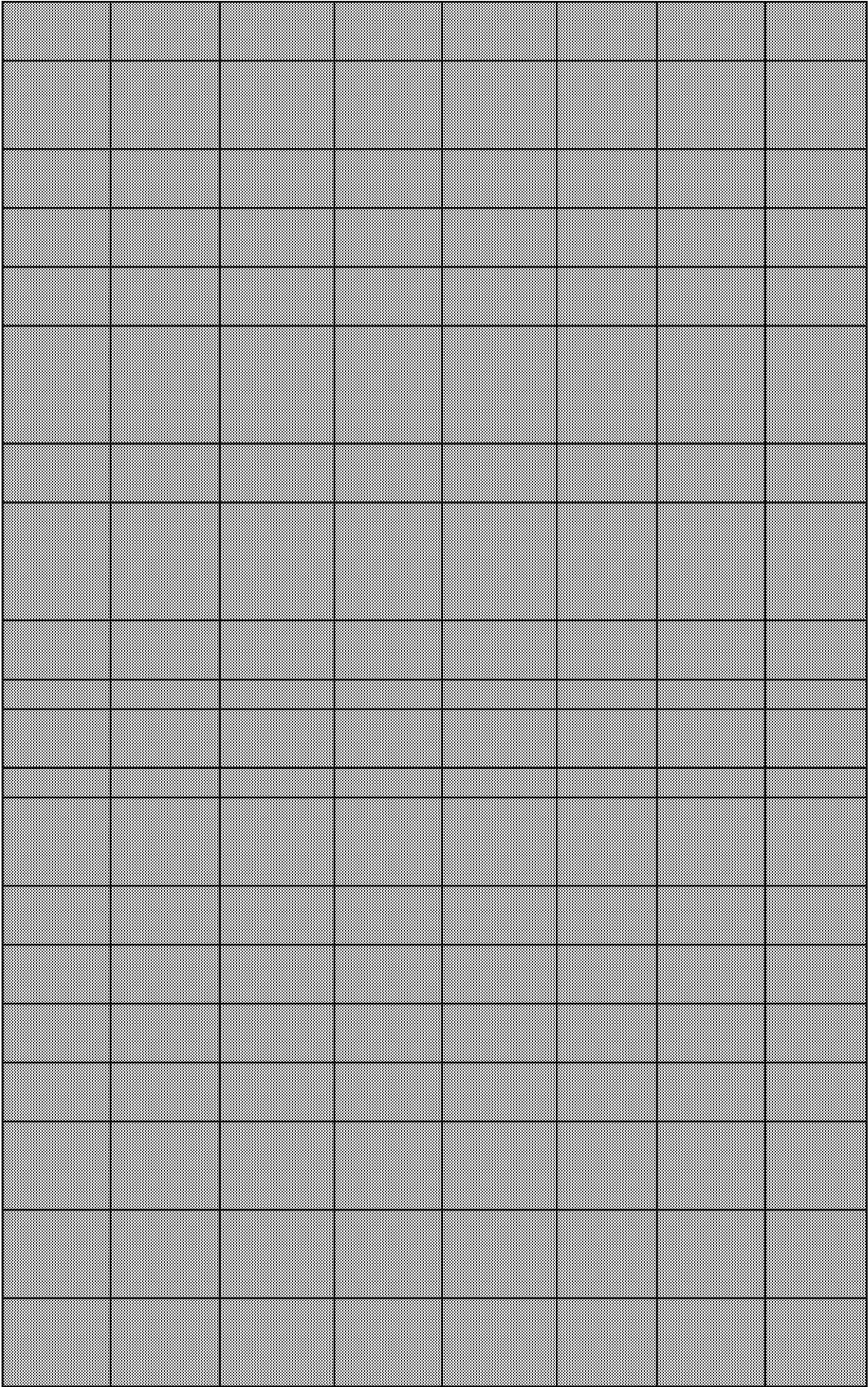


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A simple and rapid capillary electrophoresis (CE) method was developed for the quantitation of nicotine in commercial tobacco products.
Previous investigations suggested that elevated cell-free DNA (cfDNA) can indicate non-healthy states. However, the potential of cfDNA as a biomarker for disease remains unclear.
Calorimetry was used to monitor the inhibitory effect caused by the bipyridinium diquatery salts paraquat, diquat, and dithionite on the growth of <i>Escherichia coli</i> .
The principle of ion exclusion was examined as a method for the separation of small ionic compounds. The systems employed were based on the use of ion-exchange resins.
A method was devised that allows measurement in vivo of hydrogenase-catalysed H ₂ evolution from the cyanobacterium <i>Hydrocoleum rubrum</i> .
CCR4-Not complex is a multifunctional regulator that plays important roles in multiple cellular processes in eukaryotes. It is involved in the regulation of gene expression, DNA replication, and cell cycle progression.
Paraquat (methyl viologen) is an industrial herbicide which upon entering many cell types can be enzymatically reduced to the radical cation, which then reacts with superoxide to form the paraquat dication.
<i>Rhodococcus jostii</i> RHA1 is able to degrade toxic compounds and accumulate high amounts of triacylglycerols (TAG) upon growth on these substrates.
The treatment of poisoned patients is still largely defined by history, clinical assessment and interpretation of ancillary information.
Microwave-assisted solvent extraction (MASE) was investigated as an alternative for extraction of parathion (O,O-diethyl phosphorothioate) from plant material.
The latency phase, growth rate, cell yield and end-products of <i>Lactobacillus sanfranciscensis</i> CB1 were affected by oxygen concentration.
A photosystem for solar energy conversion, comprised of a culture of green microalgae supplemented with methyl viologen, was used to study the effects of paraquat on photosynthesis.
Carnosic acid (CA) is a phenolic diterpene obtained from <i>Rosmarinus officinalis</i> L. and has demonstrated cytoprotective properties in various cell lines.
Reactive oxygen species (ROS) are potentially toxic, but they are also signaling molecules that modulate aging. Recent observations suggest that ROS may play a role in the regulation of gene expression.

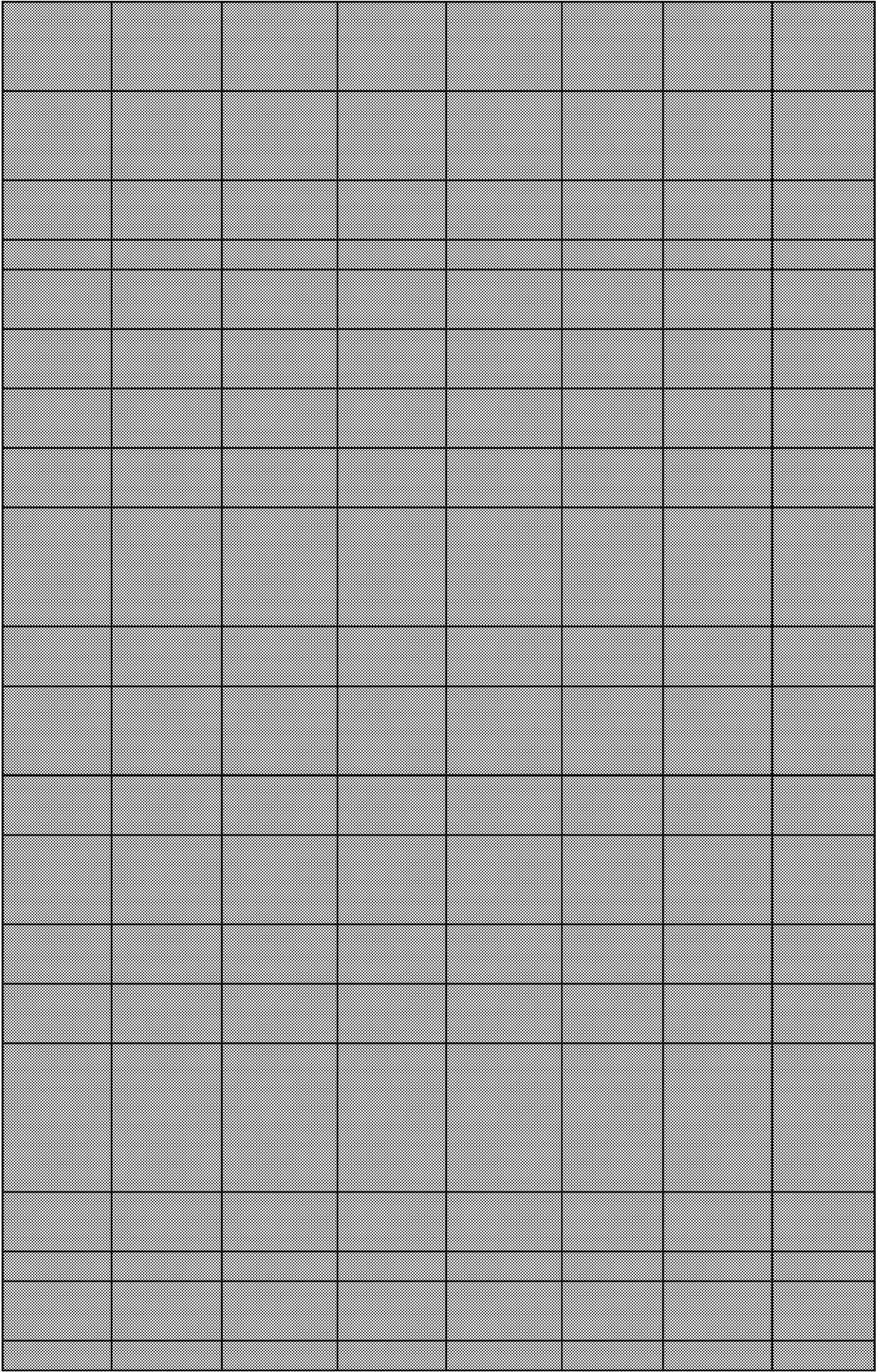
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Activated sodium peroxydisulfate has the potential to in situ destruct many organic contaminants because of the generation of highly reactive sulfate radicals.
Cultures of <i>Clostridium formicoaceticum</i> and <i>C. thermoaceticum</i> growing on fructose and glucose, respectively, were shown to produce hydrogen gas.
The effect of far-ultraviolet radiation on lipid peroxidation and inherent protection system in seedlings of <i>Taxus cuspidata</i> was studied.
The oxidation of NH ₃ to NO ₃ ⁻ by rat liver in vitro is described. A xanthine-xanthine oxidase reaction also oxidized NH ₃ to NO ₃ ⁻ .
A photochemical mechanism for single-strand cleavage of DNA is proposed in which a photoexcited intercalator transfers energy to DNA.
Carbon monoxide dehydrogenase (Cdh) has been anaerobically purified from <i>Methanosarcina frisia</i> Go1. The enzyme is a dodecamer with a molecular weight of 120 kDa.
Glycine residues may play functional and structural roles in membrane proteins. In this work we studied the role of glycine residues in the structure and function of the membrane protein, the Na ⁺ /K ⁺ ATPase.
The 'housekeeping' enzyme Cu/Zn-superoxide dismutase (SOD-1) is encoded by a gene residing on human chromosome 21.
The response of the membrane-associated carbon monoxide dehydrogenase (CODH) from <i>Rhodospirillum rubrum</i> to soluble carbon monoxide was studied.
A mechanism for the reduction and oxidation of methyl viologen by <i>Clostridium pasteurianum</i> hydrogenase (hydrogen:ferredoxin oxidoreductase) is proposed.
The search for novel stress tolerance determinants has led to increasing interest in plants native to extreme environments.
Clinical, laboratory, and pulmonary physiologic features of three fatal cases of paraquat poisoning are presented. Experimental studies suggest that the toxic effects of paraquat are mediated by the generation of reactive oxygen species.
Superoxide anion (O ₂ ⁻²), hydrogen peroxide (H ₂ O ₂) and hydroxyl radical (OH.) are products of the biological reduction of oxygen.
<i>Streptococcus suis</i> is regarded as one of the major pathogens of pigs while <i>S. suis</i> type 2 (SS2) is considered to be a zoonotic pathogen.
Many developing countries are importing industrial processes that make use of toxic chemicals. By the same token, pesticides are also imported.



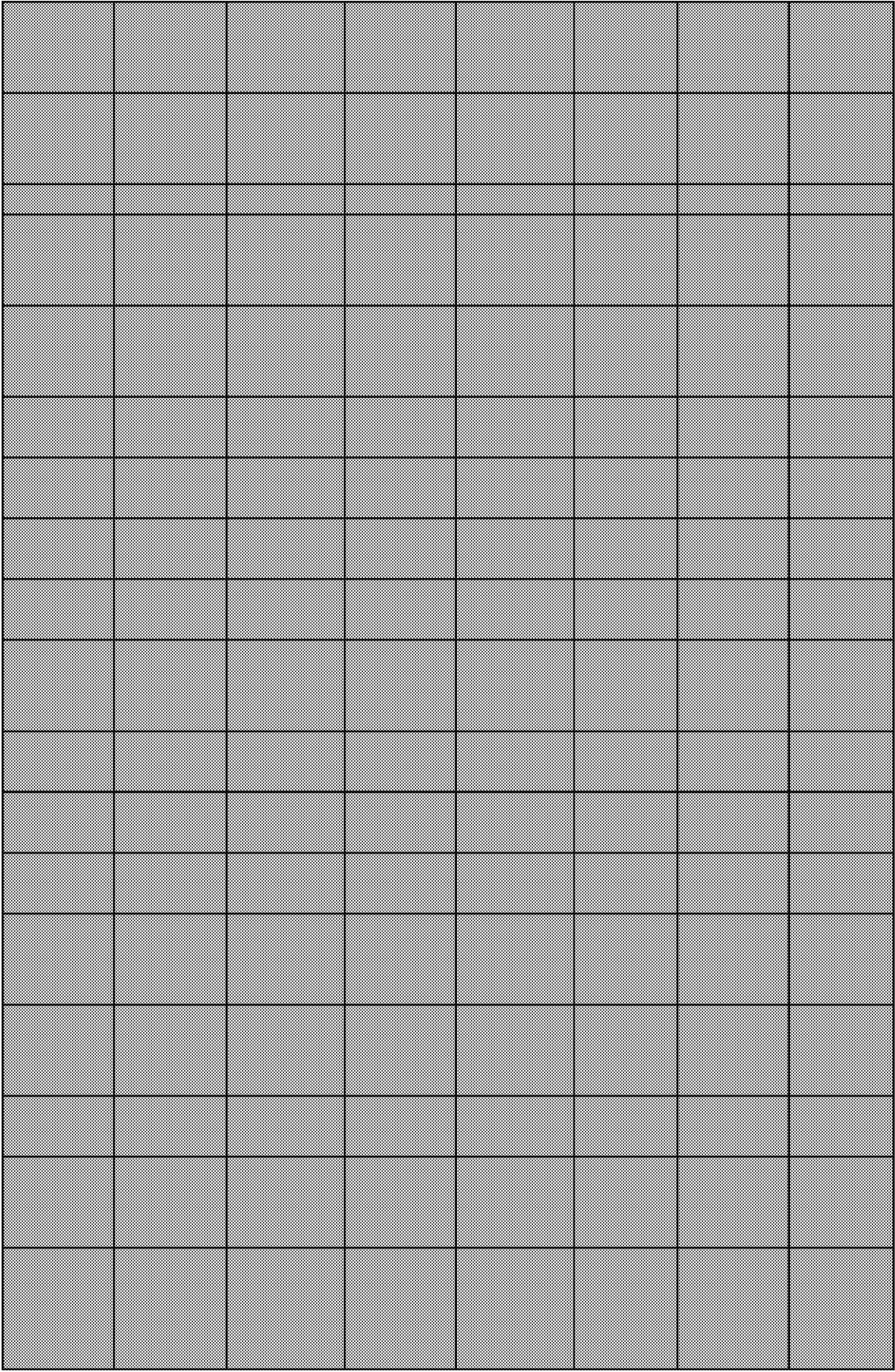
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Alveolar macrophages can be stimulated by concanavalin A to produce extracellular superoxide. Conflicting opinions exist
When samples of the enzyme in the C(red1) state were reduced with Ti(3+) citrate, the C-cluster stabilized in an EPR-silent
The reactive superoxide radical, O ₂ ⁻ , formerly of concern only to radiation chemists and radiobiologists, is now understood
Gel-based proteomics is a powerful approach to study the physiology of Staphylococcus aureus under various growth res
In Escherichia coli, the [2Fe-2S] transcriptional factor, SoxR, functions as a sensor of oxidative stress. The transcriptional a
The aim was to obtain information on the one-electron reduction of the antimalarial natural drug artemisinin (ART). The
The activity of 6-phosphogluconate dehydratase was significantly lower in extracts of aerobically grown Escherichia coli c
The rapid inactivation of aconitase by O ₂ ⁻ , previously seen to occur in vitro, was explored in vivo. A fraction of the aconit
The Ni-Fe site in the active membrane-bound [NiFe]-hydrogenase from Allochromatium vinosum can exist in three differ
In establishing an infection, Streptococcus pyogenes has the capacity to bind to the host extracellular matrix protein fibr
The incubation of rat lung slices with paraquat ion (10 ⁻⁴ M) had no effect on cAMP and cGMP levels of the rat lung slice
Morphological alterations in rat's liver during lipid peroxidation induction by paraquat were studied. Infiltration of liver by
OBJECTIVE: To study the mechanism of paraquat (PQ) -induced renal injury in rats, the expression changes of ICAM-1 to a
1. Magnesium-protoporphyrin chelatase activity, previously shown in whole cells of Rhodospseudomonas spheroides, cou
The purpose was to study the toxicity of drugs known to generate free radicals on isolated pancreatic islets. The accumul
Herbicides are continuously used to minimize the loss of crop productivity in agricultural environments. They can, howev

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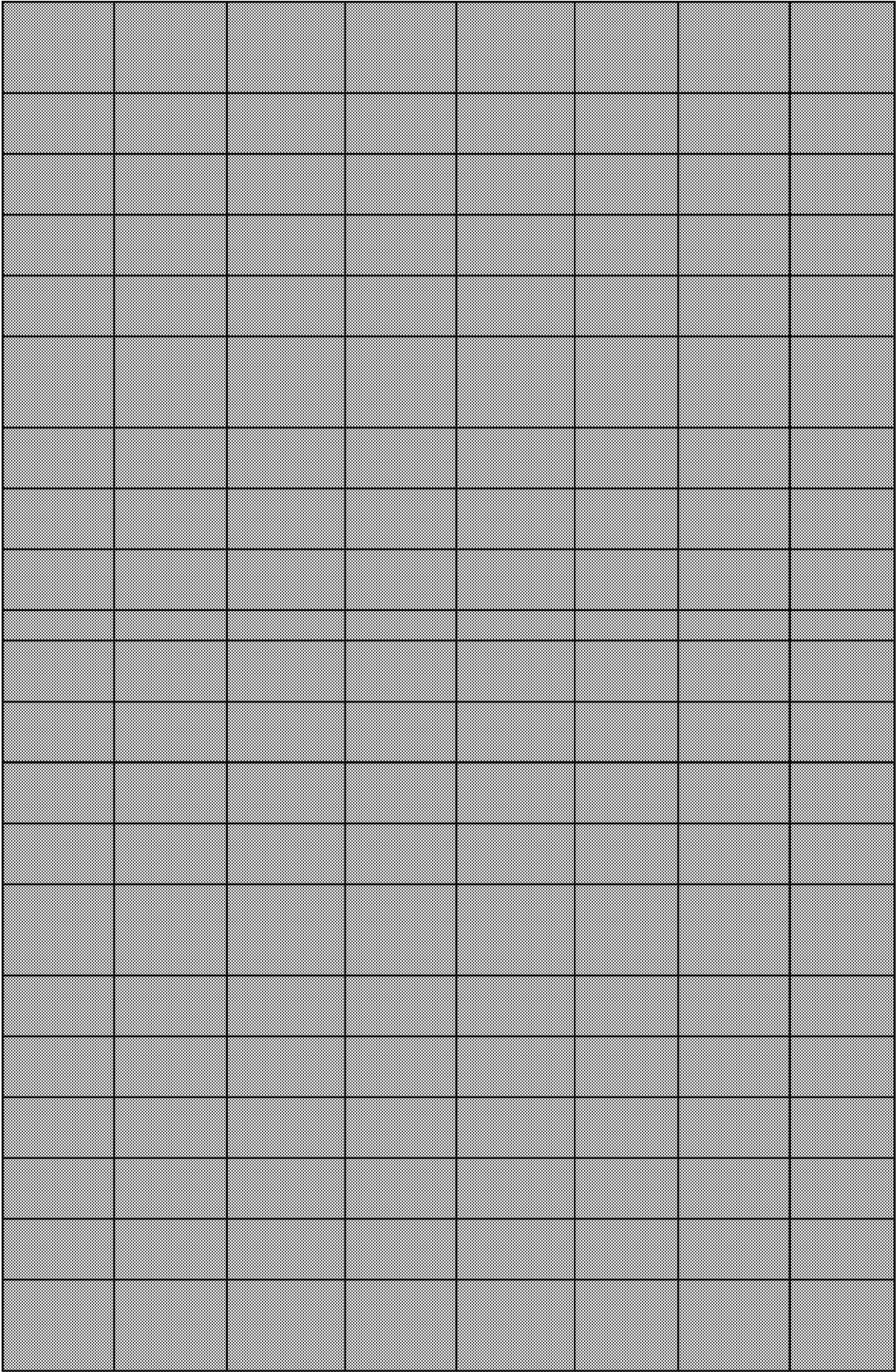
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Escherichia coli responds to superoxide-generating agents by inducing approximately 40 proteins. We have identified a g
When Escherichia coli is exposed to redox-cycling drugs, its SoxR transcription factor is activated by oxidation of its [2Fe-2
The hydrogenase of Desulfovibrio gigas has been shown to contain one nickel atom, a cluster with three irons and two cl
Studies on the induction of the manganese-containing superoxide dismutase in several strains of Escherichia coli with dif
Results are presented of the first rapid-mixing/rapid-freezing studies with a [NiFe]-hydrogenase. The enzyme from Chroo
The clinical course of a young woman following two separate suicide attempts using the herbicide paraquat is reported.
Paraquat mediates a superoxide dismutase-inhibitable reduction of cytochrome c by suspensions of Escherichia coli B. Gl
Viable Neisseria gonorrhoeae exposed to streptonigrin generate intracellular hydroxyl radical detected by spin-trapping
The generation of oxygen reduction products by Neisseria gonorrhoeae FA1090 upon exposure to streptonigrin (SNG) an
A new type of dissimilatory bisulfite reductase, desulfofuscidin, was isolated from the nonsporeforming thermophilic sul
A superoxide dismutase (SOD) gene from the obligate intracellular bacterium Coxiella burnetii has been cloned, and its D
In the presence of NADH- reductases (dihydrolipoamide: NAD oxidoreductase E. C.1.8.1.4 from pig heart or from Clostrid
In numerous tissues, contractility to certain characteristic agents is associated with cells other than muscle, e.g. actin-cor
It has been proposed that uric acid is an important scavenger of deleterious oxygen radicals in biological systems [Ames,
Treatment of rats with monocrotaline (MCT) or its reactive pyrrole metabolite, dehydromonocrotaline (MCTP), injures p

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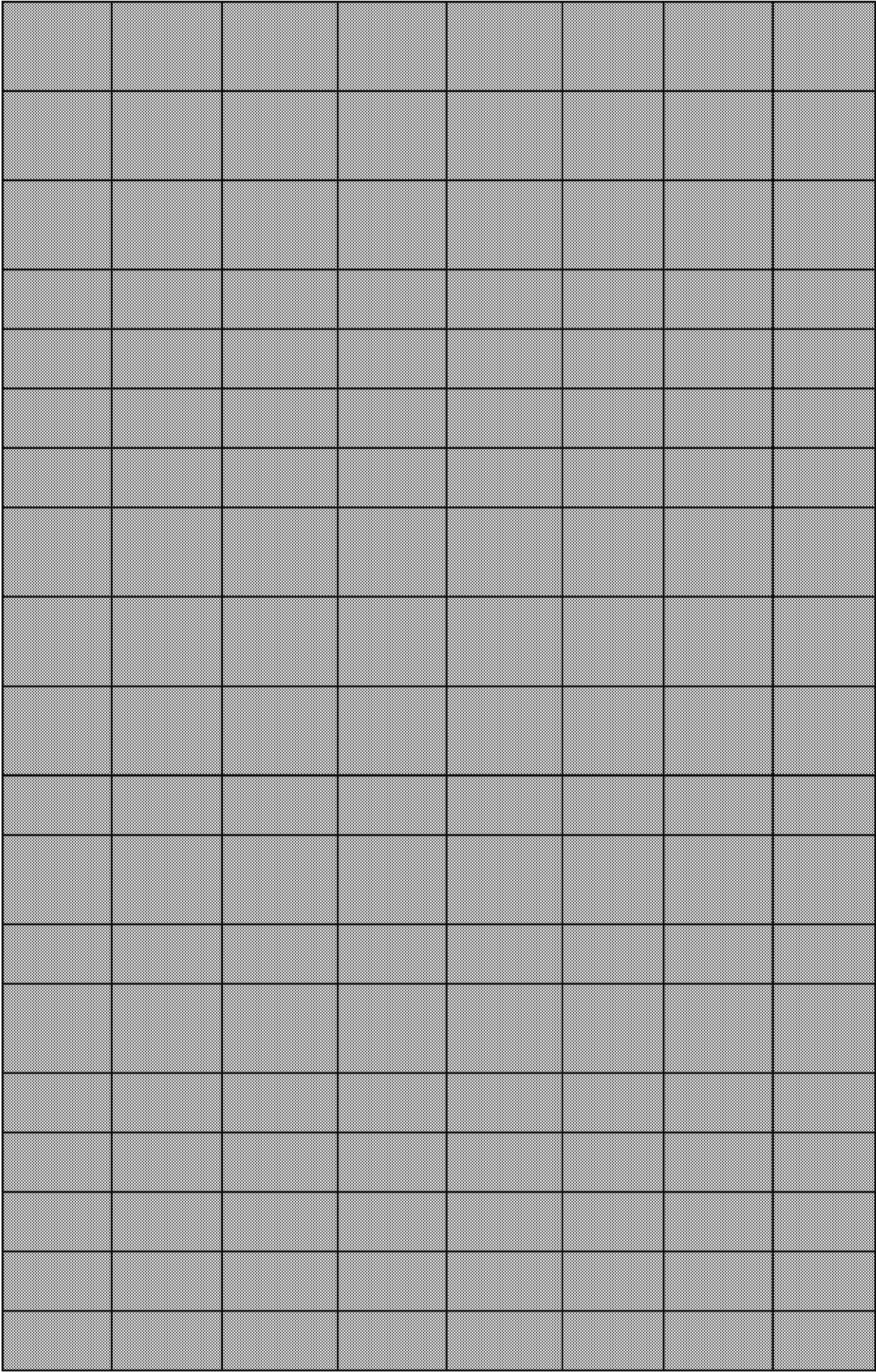
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The periplasmic DMSO reductase from <i>Rhodobacter sphaeroides</i> f. sp. <i>denitrificans</i> has been expressed in <i>Escherichia coli</i>
The superoxide dismutase (SOD) activity of iron(II) tetrakis-N,N,N',N'(2-pyridylmethyl)ethylenediamine complex (Fe-TPEI)
Acute or chronic exposure to cadmium (Cd) causes severe organ damages with the infiltration of leukocytes, neutrophils
OBJECTIVES: To determine the relationship between semen quality and exposure to pesticide residues. METHODS: A cross
The heterogeneous nuclear ribonucleoprotein C1/C2 is one of the most abundant proteins in the nucleus, and shown to b
<i>Edwardsiella tarda</i> is one of the leading marine pathogens that can infect a wide range of cultured marine species. In this
The sorption of herbicides in soils is mainly influenced by clay components. The objectives of this study were to evaluate
Alzheimer's disease (AD) is a multifactorial neurodegenerative disease and a growing health problem worldwide. Because
Epithelial-mesenchymal transition (EMT) is believed to be involved in lung fibrosis process induced by paraquat (PQ); how
The mechanisms underlying paraquat induced acute lung injury (ALI) is still not clear. C-Src plays an important role in the
1. The extent of the excretion in the bile and urine of the (14)C-labelled dications, diquat, paraquat, morfamquat, decam
In <i>Escherichia coli</i> , extracytoplasmic stress is partially controlled by the alternative sigma factor, RpoE (sigmaE). In respon
NMR spectroscopic investigation can be applied to a large variety of xenobiotics in acute poisoning cases (therapeutic ag
In order to analyse a wide range of xenobiotics and their metabolites present in biological fluids, NMR spectroscopy can
There exist at least two kinds of CO-binding hemoproteins in microsomal fractions of germinating pea (<i>Pisum sativum</i>) se
In spinach thylakoids prepared from intact chloroplasts by shocking in the presence of ascorbate to preserve the operatio
The investigations of the last 10 years have shown that beside the respiratory function the biochemical processes of the

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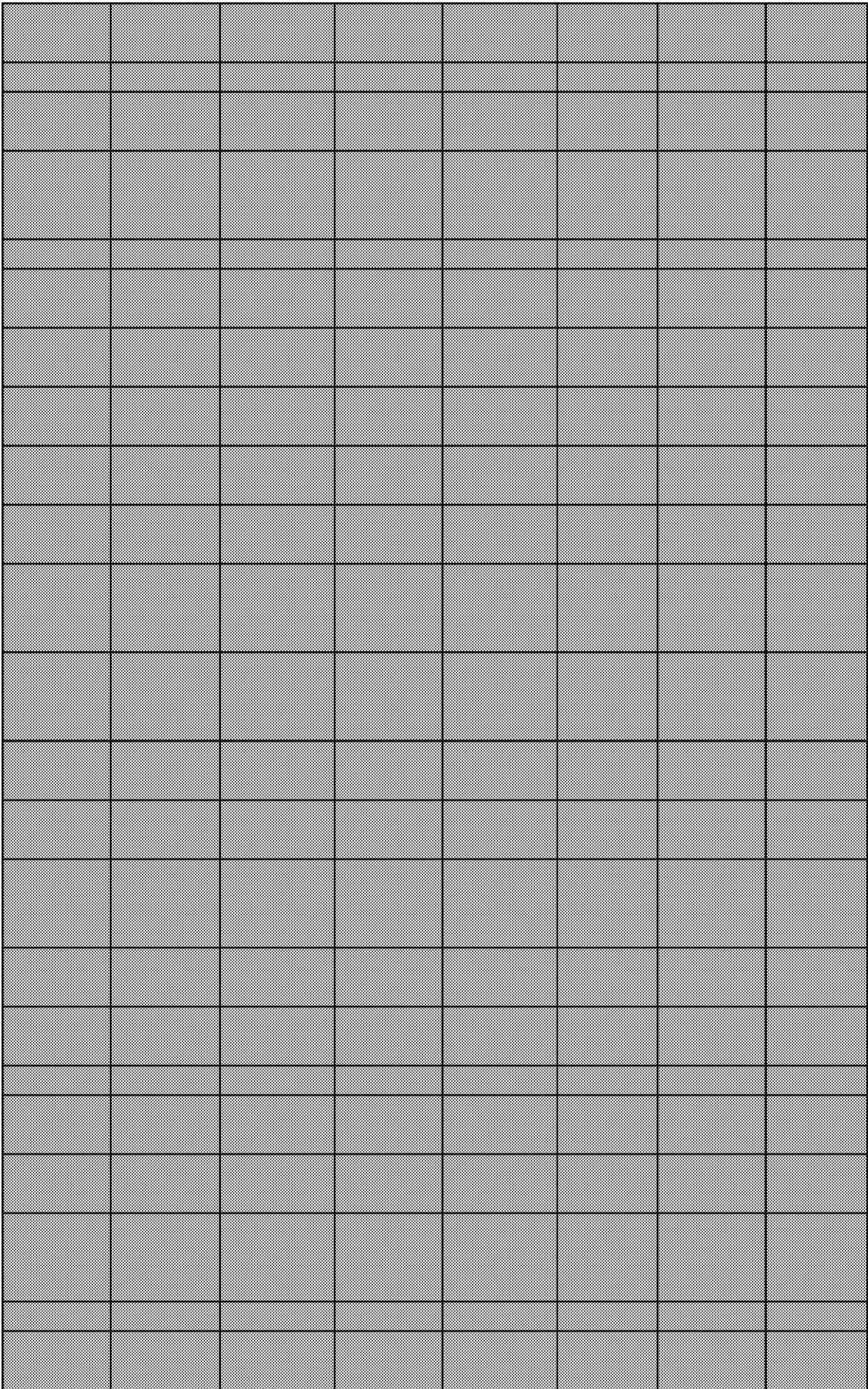
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Carbonic anhydrase activity was determined in spinach (<i>Spinacia oleracea</i>) leaf organelles isolated on sucrose density gra
A liquid chromatographic (HPLC) method has been developed for direct quantitative determination of methane sulfinic a
Exposure to hyperoxia or a number of different environmental toxins can result in free radical-mediated lung injury. Spec
BACKGROUND: The present study was designed to analyze the dynamic changes in transforming growth factor beta 1 (TG
Application of citric acid/acetic anhydride reagent (CAR), a colour reagent selective for tertiary amines in solution, impro
We previously reported that DNA single-strand breaks (ssb) induced by exposure to dimethylarsinic acid (DMAA) were er
Thiourea and superoxide dismutase were effective antidotes to paraquat toxicity in an HL60 cell culture system, whereas
Lungs of rats intoxicated by paraquat either due to parenteral administration or incubation of tissue slices with toxin app
A film consisting of polyethyleneimine (PEI), Au nanoparticles (12 +/- 1 nm) and coadsorbed cyclobis(paraquat-p-phenyle
In this study, we describe a straightforward strategy to develop whole cell-based biosensors using fusions of the bacteria
Pancreatic islet transplantation is a promising treatment for treatment of type 1 diabetes; however, transplantation outc
Bioactivation of phenytoin and related teratogens by peroxidases such as prostaglandin H synthase (PHS) may initiate hy
The present experiments have shown that paraquat enhanced both O2- production and oxidation of exogenous NADPH i
The involvement of transition metal ions in paraquat toxicity was studied in bacterial model system. We show that the ac
Human Cu, Zn-superoxide dismutase (hSOD) cDNA was inserted into a eukaryotic expression plasmid (pRc/CMV) under t
Drug testing with the use of point of care testing (POCT) has been widely used in Japan, especially in the field of drug abu
The role of iron ions in paraquat toxicity was studied in bacterial system. We show that addition of ferrous iron led to an



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Nitric oxide (NO) has emerged as a signaling molecule in plants being involved in diverse physiological processes like ger
To establish some of the necessary steps in the toxic action of paraquat for cultured mammalian cells, we isolated paraqu
The mitochondrial permeability transition pore plays a key role in programmed cell death and the induction of autophag
The antioxidative action of amphiphilic mono-(alkanoylamino) ethyldimethylamine-N-oxides (EDA), di-N-oxides 1,1-bis {[
Two classes of newly synthesized amphiphilic compounds, phenolic antioxidants ("phenolics") and N-oxides exert in vivo
Carbon monoxide-dependent production of H ₂ , CO ₂ , and CH ₄ was detected in crude cell extracts of acetate-grown Meth
Iron mobilized from ferritin has been shown to catalyze production of potent reactive oxygen intermediates. Experiment
Since cytochrome c and acetylated cytochrome c disappear from the circulation with a half-life of 4 min, these proteins c
Increasing the intracellular flux of O ₂ by incubating aerobic Escherichia coli with paraquat or plumbagin markedly lower
The concentration of malondialdehyde (MDA) in tissues in paraquat poisoning was compared between humans and rats.
In this work, two methods were developed to determine herbicides paraquat, glyphosate, and aminomethylphosphonic
Phenytoin is widely used as an anticonvulsant. In overdose situations phenytoin demonstrates saturable metabolic kinet
Using a set of 13 basic solutes (including a quarternary ammonium compound) with controlled pKa, log P and plasma pro
Natural plankton communities from a tropical freshwater reservoir (Combani Reservoir, Mayotte Island, Mozambique Ch
Ecotoxicological assessment in the tropics is based mainly on knowledge gained from temperate organisms, although ma
To identify a sensitive biomarker of freshwater monitoring, we evaluated pollutant-induced expression of heat shock pro

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